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Principle of News Print Pooling Agreed Upon

Announcement States All That Remains Is To Settle Terms and Other Details Incidental to Individual Contributions to Pool—Plan Advanced by Some Interests In Order to Stabilize Contract Situation—Ultimate Fate of Plan Depends Upon Unanimous Consent of All Concerned—Efforts to Solve Problems Continue

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., November 14, 1932.—Further meetings have been held here between representatives of the leading news print companies and the banking interests in an endeavor to arrive at some working basis following the crisis in the news print industry caused by the war of prices now on. At one time during the past week the situation reached a point where it was thought it might be advisable to suspend further meetings, but it was finally decided to meet again to attempt to solve the problems of the industry. It is understood that a pooling agreement in regard to the larger companies is proposed, but there is stubborn opposition to the plan, and its ultimate fate depends upon the unanimous vote of all concerned. Some members advanced the plan in order to give stability to the contract field. Others disagreed on the theory that those who had profited by the switching of contracts would be given relatively more advantage by pooling plans which would still further reduce operations of companies which had suffered reverses in the "open season" for contracts. Today it is announced that there is agreement on the principle of a pooling arrangement, and that all that remains is to settle terms and other details incidental to the individual contributions to the pool.

Reaction from Presidential Election

So far as the pulp and paper industry is concerned, the only reaction in Canada to the result of the presidential election in the United States comes from British Columbia, where the pulp and lumber interests are said to be pleased at the election of Franklin D. Roosevelt, believing that a Democratic administration at Washington will probably result in a gradual relaxation of the tariff laws that have crippled their exports to the republic.

This sentiment, in opposition to President Hoover, was strengthened when the Republican specifically mentioned the lumber tariff in his transcontinental telephone speech from Washington on the evening of November 2.

On that occasion Mr. Hoover pledged his party to a continuance of a policy that has deprived British Columbia's lumber of its most important market.

"Regardless of what we get in the way of preferences from the British Isles," a leading lumber operator told the *Financial Post*, "the business we may develop with the British Isles during the next few years cannot begin to compensate for our loss of the United States market."

Two Fiber Plants Re-opened

Lawrence W. Killam, president of the British Columbia Pulp and Paper Company at Woodfibre and Port Alice, B. C., announces the reopening of the plants at both places, after several months' shut down.

"Reopening of the two plants does not, unfortunately, reflect substantial betterment in the pulp business," said Mr. Killam. "We have been selling from stored stock since May, when the two mills were shut down, and we still have an accumulation of pulp to dispose of. However, we are anxious to maintain our staffs and we believe that in these times every effort should be made by industries to continue operation, even at reduced capacity."

Mr. Killam says that prices on the coast are still low and that demand is weak, but orders from the Atlantic coast and the Middle West, coupled with new business from Japan, have justified the company's decision to reopen.

Empire Preference Opportunities

While, as already stated, there was very little in the agreements of the recent Imperial Conference at Ottawa affecting the pulp and paper industry of this country, the fact that the British Government agreed to continue to accord free entry to Britain on many lines of manufacture while continuing to impose duties on similar manufactures from outside the Empire, offers some opportunities to the paper industry here that may in time prove to be important.

Admitted free, as against a 25 per cent ad valorem duty on foreign products, are kraft and imitation kraft, machine-glazed paper (other than bleached white poster); greaseproof paper; certain glazed paper; all weighing from 7 to 90 lbs. to the ream of 480 sheets of double crown, 30" x 20".

Admitted free, as against 20 per cent ad valorem duty against foreign products are paper and board (other than new sprint) weighing up to 90 lbs. per ream of 480 sheets double crown, 30" x 20". When of a heavier class the foregoing are admitted free as against a duty on foreign products of 15 per cent ad valorem.

Ontario Paper Mills Only Moderately Active

Fine Paper Manufacturers Report Fair Tonnage for First Half of Month, With Sufficient Business to Keep Machines Operating at Reduced Rate of Capacity—Coarse Paper and Paper Bag Plants Continue Quiet—Paper Converting Trade Listless

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., November 14, 1932—So far this month the volume of business coming to the wholesale paper trade in Ontario has been disappointingly small. October wound up with a fair volume of sales for the month and it was thought that a definite up-turn to business had been reached. It begins to look now as if that much-desired condition was indefinitely postponed. At any rate the market has again taken on a lethargic character and the best or worst the paper merchants are saying is that things are decidedly spotty. The printing industry, also, is quiet. They are ordering paper in small lots and practically every order is conditional on immediate delivery whether it is a few sheets or a few tons. None of the printers are stocking and many of them defer ordering paper until the job is locked up, and the stock selected by customers is invariably the cheaper grades. There has been a decided slump in the market for the finer class papers but this is a situation which, the wholesaler predicts, will be corrected shortly when the expected up-turn in business shows more definite signs of permanency. Just at the moment the experience of most of the paper jobbers is that not enough of the enquiries that are coming in are materializing into actual business.

As in wholesale paper circles, so with the mills. There has been little improvement in activity during the past few weeks and most of the fine paper mills could handle more business. Others report a fair tonnage for the first half of the present month, with enough business in sight to keep the machines busy at the reduced rate of capacity for the balance of the month. There are cases where mills are hard put to it to keep operating on the orders that are coming in but they have been doing it and the impression prevails that the worst has been passed. The coarse paper market continues quiet and a similar condition exists among the paper bag manufacturers. The paper converting trade is still inactive while on the other hand the light weight paper manufacturers report a fair volume of business, with little to worry about as far as dumping or outside competition are concerned.

Abitibi Bondholders' Affairs

The committee looking after the affairs of the bond holders of Abitibi Power and Paper Company, which organization is in the hands of a receiver, has circularized the shareholders appealing for additional deposits of bonds in order to strengthen the committee's position as adviser in connection with many operating problems presented by the receivership, "as well as to take part in negotiations which must at a suitable time be conducted on behalf of the bondholders in working out a plan of reorganization." It is stated that the receiver is operating the properties and directing every effort toward curtailing the company's expenditures and the reduction of its costs to strengthen its competitive position. Conditions in the news print industry, it is pointed out in the letter, are extremely unsettled and add greatly to the difficulties of profitable operation.

News Print Conferences Being Held

Conferences in Toronto and Montreal between executives of Canadian news print companies and banking interests have been taking place during the past couple of weeks and are likely to continue, although so far no definite results have been reached. Meetings are still being held, but extent of the problems involved do not work in favor of an early solution. Increased premium on American funds apparently in the past few days tends to aid the position of the Canadian producer selling his output on contract. Spot prices in New York, on the other hand, are reported to have been reduced as the premium rose, tending to deprive the Canadian manufacturer of the benefit of exchange rates to some extent.

Claim Carton Price Doubled For Canada

An interesting situation among local manufacturers of corrugated cardboard shipping cartons was revealed by a Toronto purchaser of these goods, who based his information, he said, on correspondence with carton manufacturers in Canada and the United States. From four different local manufacturers he showed quotations for 1,000 boxes at the following prices: $141.55; $141.55; $141.50 and $141.27. "For these same boxes," he said, "we have a quotation from a New York Company of $75 per 1,000 f.o.b. New York. They buy their pulp, the only material used in making the boxes, from Canada. We have tried to get quotations on boxes from Buffalo. Two firms say they cannot compete with Canadian prices. A third says it has a subsidiary in Toronto and three other manufacturers failed to answer at all. That is strange with every one looking for business these days. Figuring on duty, exchange and excise tax, we are able to get the New York product here for $115.70."

He pointed out that a year ago the goods could be bought in Toronto at very close to the New York price of $75. The local price in the interim has almost doubled, he declared. It was explained by E. Newall, president of Fibre Boxes, Ltd., that there was a war on among the carton manufacturers a year ago and he was of the opinion that in the interim there has been no agreement among manufacturers to maintain prices. Purchasers have naturally been a little peeved at the rise in prices, but there has been nothing in the way of a combine. At today's prices there is no box maker who can make over five per cent and all the box houses in New York were losing money, he alleged.

Notes and Jottings of the Trade

A conference took place recently between the Premier of Quebec and Brig. Gen. J. B. White, vice-president of the Canadian International Paper Company, regarding the operations of the latter in the lower part of Quebec, and the situation of the colonists of the Gaspe Peninsula. According to a statement made by the Premier, the Government has asked the International Paper Company to purchase the pulpwood of the Gaspe colonists, to help the latter to pass through the present crisis, made the more acute because of the damage incurred during the recent storm. The subject will be taken up at a conference to be held in Quebec shortly.

One thousand carloads of pulpwood are being moved over the T. & N. O. Railway from Cochrane, Ont., to Johnsonburg and Tyronne, Pa., Niagara Falls, N. Y.,

Merritton and Thorold, Ont. Approximately six hundred cars were moved out during the course of the summer, and early in November it is expected that all the large stocks will have been shipped out.

Chicoutimi Mills, Ltd., of Chicoutimi, Que., was recently granted a provincial charter to do business as dealers, manufacturers, etc., in mechanical and ground wood pulp, sulphite, wood, papers, paper materials, cardboard, strawboard, etc., with a capital stock of $100,000. Among the incorporators are Alfred J. Martin, Francis J. Bush and Joseph T. Harrington, of Montreal.

The council of Fernie, B. C., went on record endorsing the proposal of the Flathead Paper Company, Ltd., to build a pulp and paper mill at the place. They have asked federal and provincial governments to support the proposition by guaranteeing the interest on a $500,000 bond issue at the rate of 5½ per cent for a period of ten years.

The Abitibi Power and Paper Company at Sault Ste. Marie, Ont., will pay taxes on an assessment of $1,960,000 next year, the court of revision of that town has decided. This is $310,000 less than the original assessment. The assessment next year will be an increase of $540,000 over 1932.

A meeting of the holders of first mortgage sinking fund 6½ per cent 20-year bonds series "A" and of 6½ per cent 15-year debentures series "A" of Lake St. John Power and Paper Company, has been called for at the King Edward Hotel, Toronto, on December 8. A resolution will be submitted asking power to investigate the affairs of the company.

Port Royal Pulp and Paper Company, operating the plant formerly owned by the Nashwaak Pulp and Paper Company at Saint John, N. B., is now in operation with a staff of some 140 employees on the payroll. The management states that it has orders on hand in New England markets which justify operations, and expects output to reach normal proportions.

A number of the paper mills in the Niagara Peninsula are contemplating the installation of electric boilers. A co-operative movement along that line is taking place and negotiations will likely result in the substitution of "white" coal for black in the boiler rooms of the various mills in the district.

Many representatives of the paper trade were in attendance at the funeral of the late Mrs. Weldon, wife of T. A. Weldon, vice president of Provincial Paper, Ltd., whose death took place at Thorold, Ont. The remains were interred in a Toronto cemetery.

The A. D. Shoup Company, manufacturers of paper boxes on Carlaw Avenue, Toronto, have taken over the Scott, Harvey Company, at 120 Richmond street West and will continue to operate the plant as a folding box division.

Pacific Mills Unit Delayed

[FROM OUR REGULAR CORRESPONDENT]

VANCOUVER, B. C., November 12, 1932.—Delay has arisen in connection with the completion of the fiber box unit of Pacific Mills, Limited, Vancouver, B. C. As a result of a temporary hold-up in securing the necessary equipment it is not expected that this plant will be ready to commence production before the first of February, 1933. F. M. Youngman, general manager, in making earlier announcement in connection with this project, stated that it would be completed and production would commence during the first week in December. It has been impossible to secure the delivery of the required machinery estimated at a cost of $100,000 by this date, however, and as a result delay is unavoidable. The total cost of the project is $127,000.

Port Alice Mills To Reopen

[FROM OUR REGULAR CORRESPONDENT]

VANCOUVER, B. C., November 12, 1932.—The Port Alice mills of the British Columbia Pulp and Paper Company, which have been closed down since last May, will reopen early in December, although possibly only for a short period, according to present plans revealed by Lawrence Killan, president of the company, from his office at Vancouver, B. C.

The woodfiber plant of the company on Howe Sound which also closed down in May resumed activities on October 1, providing employment for 260 workers in addition to a number of men who were engaged during the month of September in overhauling the plant's equipment.

A part of the large payroll at the Port Alice plant will be provided with work during the month of November in overhauling and repairing the mill for resumption of activities in December. One large turbine is being rebuilt and several digester units which were installed by the company during the past eighteen months will be dismantled and rebuilt with a view to increasing the efficiency.

Mr. Killam emphatically states that the reopening of these two plants does not reflect any marked improvement in business conditions. He points out that both plants are situated in what is practically company towns, and is the sole means of employment for the large number of men residing there. In view of this situation, the company is making every effort to provide even temporary employment for the purpose of relieving the situation for its workers. During the past months the firm has been supplying orders received from the Atlantic Coast and from the Middle West from stock and it has sufficient stock on hand to fill these orders for a considerable time to come. It has now secured a few orders from Japan and as a result of these it is reopening its plants for a temporary period with a view to relieving the situation for its workers. Continued operation of the plant will entirely depend on the business situation and whether incoming orders are secured at a price which will make it profitable to operate.

New Tablet Plant Completed

[FROM OUR REGULAR CORRESPONDENT]

NEWTON FALLS, N. Y., November 10, 1932—Construction work on the new plant of the McCormick Tablet Company has been virtually completed and operations will be under way within a few days. R. O. Osborn, chief engineer of the Newton Falls Paper Company, supervised the construction of the building which will provide about 15,000 square feet of space for production of school and commercial supplies. Erection of the new mill was started late in the summer. High quality paper used in production of the company's lines will be acquired from the Newton Falls Paper Company. The equipment for the structure is of the latest and most modern kind and will allow of capacity production. Recruiting of a working force is now under way and about fifty hands are to be employed steadily.

Announcement is made also by the Newton Falls Paper Company that increased demand for its product resulting from operation of the new plant will probably necessitate enlargement of its working force. The company plans to take on more hands as the volume of orders will permit.

James M. Ferris Dead

HUDSON FALLS, N. Y., November 10, 1932—James M. Ferris, secretary and treasurer of the Sandy Hill Iron and Brass Works, makers of paper mill equipment, died here on Wednesday, November 2.

Chicago Paper Market Conditions Irregular

Following Fairly Active First Week of Month, Demand for Bond, Ledger and Writing Paper Falls Off—Some Improvement Noticed In Coarse Paper Section, With Kraft Wrapping Paper Moving More Freely Than of Late.

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., November 12, 1932.—This week in the Chicago paper market was characterized, according to reports, by a fairly strong opening day, a more or less irregular election day and a post-election quietness which has been more or less expected. There are plenty of indications that Chicago jobbers and mill representatives have no intention of letting things remain quiet. Beginning almost immediately sales forces are going out with the intention of cracking open a business sadly low in inventory and already responding to demands in the general business structure. Some lines, notably those with Christmas-use products, are finding their business accentuated by a sudden cold snap which is speeding up local retail sales and providing far more holiday atmosphere than the warm, rainy days of last week.

The paper board industry is said to be retaining the ground that it won over the past two months and this industry is going to be busily engaged, at its annual meeting in New York next week, in an effort to take full advantage of the situation, with particular reference, say some authorities, on the price situation, which does not as yet reflect the real improvement. The kraft market is reported more active, prices moving in a narrow range and at the levels of the past week. Tissues and specialties devoted to holiday trade are doing better. Bonds, ledgers and writings were dull during the latter part of the week after a fairly encouraging first week of the new month. Books and covers remain unchanged. The news print situation still perplexes some market analysts because of its effect on other markets and ground woods are correspondingly inactive. Waste papers are in the same category.

Salesmen Advocate Paper Palace

The Middle West Division of the Salesmen's Association of the Paper Industry is carrying on its efforts to sell the paper industry on the idea of exhibiting at the Century of Progress Exposition to be held in Chicago in 1933 and is enlisting the support of all factors in the industry. With around 50,000,000 prospective paper buyers expected to be on hand during the year, the salesmen feel that the seventh ranking industry should certainly have a representation that will not only draw the crowds but sell them on the uses of paper—thus assisting in defraying the actual cost of the exhibit.

Harold Knott, president of the association, states that the industry, through its many various associations, has been approached for the third time relative to the spending of approximately $50,000 for the exhibit. The Salesmen's Association estimates that this expense could easily be covered if each mill would put up $50.00 for its share of the cost. The building, to house the exhibit, would, the salesmen estimate, cost approximately $14,000. The exhibits and appointments would cost an additional $36,000 to bring the total up to $50,000.

The salesmen strongly favor the plan originated by W. B. Wheelwright, of the Wheelwright Paper Company, which calls for a Paper Palace, built almost entirely of paper. This, they feel, would really go a long way in increasing paper consumption and would be far more than a mere curiosity. A paper machine, to perhaps draw the crowds, could also be used inside the house. Mr. Wheelwright explained his plan at a recent meeting of the association held at the Century of Progress grounds. There, and in subsequent meetings, the salesmen have indicated that time is growing short and that the opportunity should immediately be taken to insure representation of the paper industry.

Chicago Paper Association's Activities

The Chicago Paper Association postponed its meeting of November 8, at which time officers for the ensuing twelve months were to be elected, until November 15. A large attendance is expected at the annual election session, according to M. A. McNulty, chairman of the publicity committee of the coarse paper group. Unless some unforeseen nominations are presented the slate selected by the nominating committee will be elected, including Earl Beier, chairman of the board; Walter Schulmann, president; M. A. McNulty, vice president in charge of the industrial group; William Chukerman, in charge of the retail group; and James S. Danehy, secretary-treasurer. The association will also complete plans for breaking up the association, for discussion purposes, into industrial and retail divisions in order that each group may concentrate on its most pertinent problems, assembling in general session for all matters of interest to the general welfare of the coarse paper industry in the Chicago market.

Dana Pratt to Address Paper Salesmen

Dana Pratt, of the Butler Paper Company, is to speak at the Monday, November 14, luncheon meeting of the Middle Western Division of the Salesmen's Association of the Paper Industry, according to Creighton Whiting, vice president. Mr. Pratt will discuss "Mutual Problems of the Merchant and the Manufacturer." On November 21 the salesmen plan their annual golf luncheon at the Hamilton Club, a closed session at which those who were prize winners will gloat and those who lost will commiserate.

News of the Trade

Paperboard industries here will have to get along without their chief executives, for at least half of the week of November 15, according to reports which indicate that an unusually large number will be in New York City and at the Commodore Hotel for the annual sessions of the Paperboard Industries Association. Committee meetings on Tuesday; Container and Paperboard Groups and the Annual Dinner on Wednesday and the General Meeting on Thursday of next week, should all find a large attendance from paper board executives of this district.

The West Virginia Pulp and Paper Company has recently issued from its Chicago offices at 35 East Wacker Drive, the new listing of stock sizes and weights in standard mill grades effective as of November 1. Nineteen grades of enamel, super whites, machine finish whites, eggshell whites and bonds are included in the listing, along with information on index bristol and cream post card.

Through its Chicago distributors, the Midland Paper Company, Moser Paper Company, and Parker, Thomas & Tucker, the Howard Bond Company has issued another of its effective series on uses of Howard Bond. This particular direct mail piece deals with the oil industry and the copy discusses the uses made of Howard Bond from the drilling of the oil to the last use.

Boston Paper Industry Becomes More Cheerful

Following Usual Pre-Election Business Slump, Demand for Various Standard Grades of Paper Improved Slightly With Suspense Ended—Bond and Ledger Papers Continues Fairly Steady—Box Board Request Well Maintained

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, November 14, 1932.—As a whole, business has been rather quiet with the paper wholesalers in the Boston market the last two weeks, largely due to the political situation. Some, however, note a slight improvement the latter part of last week. A cheerful feeling generally, however, prevails, with the thought that the election is over and the rising movement of trade will continue after the temporary lapse. Members feel that they can adjust themselves to a certain degree now that the suspense is over. The improvement which slowly developed in some industries in the last few months, bringing to the paper trade an increased business, is expected to continue.

In some cases the demand for both fine and wrapping paper so far in the month, has held to the October levels. Bonds and ledgers were fairly steady in the period under review considering conditions. Wrapping papers and specialties were in reasonably satisfactory call.

It is intimated in the trade that election week influenced the boxboard market only slightly. Mills have been busy filling orders said to have been booked at former lower prices. Values have held strong. The much better sentiment in box board which has prevailed for some weeks, is well sustained, particularly with the orders coming in from makers of cartons for the candy and shoe industry.

In paper stock, old newspapers were much sought after, due to the volume of box board in demand. Old newspapers have advanced from .32½ @ .37½ to .35 @ .37½. No. 1 mixed papers continue strong, the price holding at .15 @ .20. Other grades were generally dull, with no changes in value.

Boston Paper Association to Meet

The Fall Meeting of the Boston Paper Trade Association is to be held at the Exchange Club Wednesday evening, with Carl P. Dennett, chairman of the Massachusetts branch of the National Economy League, as speaker. Mr. Dennett will discuss "The National Economy League—Its Purposes, Needs and Opportunities." The membership committee has approved the following applications for membership: Louis De Jonge, Louis De Jonge Company, proposed by Norman Harrower; Horace B. Sargent, E. Butterworth & Co., Inc., proposed by Thomas H. Casey; Donald R. Smith, Keith Paper Company, by John W. Vivian; Rolf G. Westad, Waterfalls Paper Mills, by Thomas H. Casey; S. Guy Ashley, Old Colony Envelope Company, Inc.; Walter B. Sheehan, Missisquoi Corporation, John D. Zink, Old Colony Envelope Company, Inc., and Herbert E. Raymond, Missisquoi Corporation, the last four by Norman Harrower. Limited membership—Alfred T. Carter, Pejepscot Paper Company, Inc., proposed by Floyd H. Blackman. Group singing will be led by E. Lindsey Cummings. The officers for 1932-1933 are: President, Charles A. Esty.; 1st Vice President, Frank B. Cummings; 2nd Vice President, F. Bendel Tracy; Treasurer, Thomas H. Casey; Secretary, J. L. Hobson.

News of the Trade

The Arnold-Roberts Company has added to its lines Highway Bond, a new Strathmore paper, which is being merchandized in cabinets. This line is sold in two sizes, one, with 100 sheets and envelopes; and the other, 250 sheets and envelopes.

Carter Rice & Co., Corp., in the window display at the office of the company, is featuring papers manufactured by the American Writing Paper Company. The display includes large decorative panels, on which are the current advertising, such as the "Then and Now" campaign on Contract Bond, "Thrifty" advertising campaign on Egg Shell Text, and other interesting material. In the center is a moving display, picturizing various steps in paper manufacturing.

Percy D. Wells has begun to occupy another floor at 58 Pearl street. He is rearranging and painting the office. He is also painting the front with a new sign as part of the changes.

Henry L. Goodman is distributing a new Marvellum book of Cretonne papers, made by the Marvellum Company, Holyoke. Mr. Goodman went to New York November 11 for a business trip of a few days.

F. B. Foster, whose father was with the American Writing Paper Company a number of years, is to represent Knight, Allen & Clark in Boston and Providence.

John H. Brewer, general manager of the Storrs & Bement Company and secretary of the New England Paper Merchants Association, passed a week's vacation at West Falmouth, Mass.

Richard F. Piper, of Baird & Bartlett Company, whose residence is at Wayland, Mass., has been shooting ducks in the early morning recently on the Sudbury River.

The Waltham Woodenware and Paper Company, Waltham, Mass., has incorporated. There are 1,000 common shares of no par value. Incorporators and officers: President, Abraham Caplan; treasurer, Abraham Crevoshay, 121 Summer street, Waltham, and Annie Kaplan Tirk.

Thomas M. Dix, of Spaulding & Tewksbury, has been completing a term of jury service for Middlesex County, Cambridge.

The following called on the Boston trade: A. B. Carpenter, Amoskeag Paper Mill, Manchester, N. H.; Howard Tunstall, of A. M. Collins Manufacturing Company, Philadelphia, Pa., and Paul Houston, of the Marvellum Company, Holyoke.

De Laval Propeller Pumps

Propeller pumps, which are axial flow pumps for handling relatively large volumes of liquid against comparatively low heads at high rotative speeds, are described in Catalog B-6, distributed by the De Laval Steam Turbine Company, Trenton, N. J.

These pumps are so designed that the liquid flows through the pump in smooth lines without abrupt turns or change of direction, and efficiencies comparable to those of centrifugal pumps are claimed. These pumps are built for installation with the shaft either horizontal or vertical, and are available for all capacities and for heads up to about 40 ft. They can be coupled directly to standard speed electric motors or steam turbines, although speed reducing gears are used with the latter under some conditions. They are adapted for circulating condenser cooling water, lifting storm water in drainage and sewage systems, irrigation service and, in fact, all purposes within the head limitations.

Philadelphia Paper Market Little Changed

Although Demand for Both Fine and Coarse Papers Declined Slightly During Past Week, Net Results Compare Favorably With Record of Similar Period Last Year—Price Situation Rules Fairly Satisfactory In Most Instances

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., November 14, 1932—With the election decided there is a very firm conviction that progress made in the last few months will not be seriously interfered with, if at all, and the rather brief assurances that no radical steps will be taken informally received during the week has tended to reinforce that confidence. As a matter of fact, the business of both branches of the industry—fine and coarse—does not compare very favorably with that of the preceding week. But it is also just as truly a matter of fact that no one in the trade looks upon this slight regression as significant of more than merely transient causes.

The printing trades, because of the election, were exceptionally busy and their paper demands as a consequence had been in excess of the ordinary. Moreover, the business week was much interrupted by election and Armistice Day holidays. These reasons alone, the trade holds, are responsible for the slight loss of the week. But even with this diminution its net results still show a very considerable improvement over the corresponding period of twelve months ago, and there is no one in the branch of the business who is not possessed of abiding optimism that the turn was made as a matter of fact months ago, and that movement will be forward and probably without much halt.

Prices have continued firm all along the line but because of that fact there continues some easing up of the fierce competition which so long has maintained here. Less than this is the animating purpose in making quotations and order-getting without respect to profits. Collections are still slow but they show a slight tendency toward improvement.

Paper Stock Firmer

In the paper stock business, prices have strengthened for old news and over issues but not sufficient to warrant any advance in the quotations which were changed two weeks ago. As a matter of fact both these branches are coming in lesser amounts than the market at this time can use and there is some competition in securing large volume amounts, but not so far, with offerings above those quoted. Because of increased trade protection incident to the oncoming holiday season, these mills are in the market to a larger extent than they were some weeks back.

The large packers regret that much of the stock is being shipped by the smaller collectors direct to the mills in this city and across the river. Those who transport across the Delaware to consumers in Camden and Gloucester have encountered some embarrassment owing to the warfare, or rather reprisal of the sister State in the matter of truck licenses, but these differences seem now to be on the way of a happy adjustment.

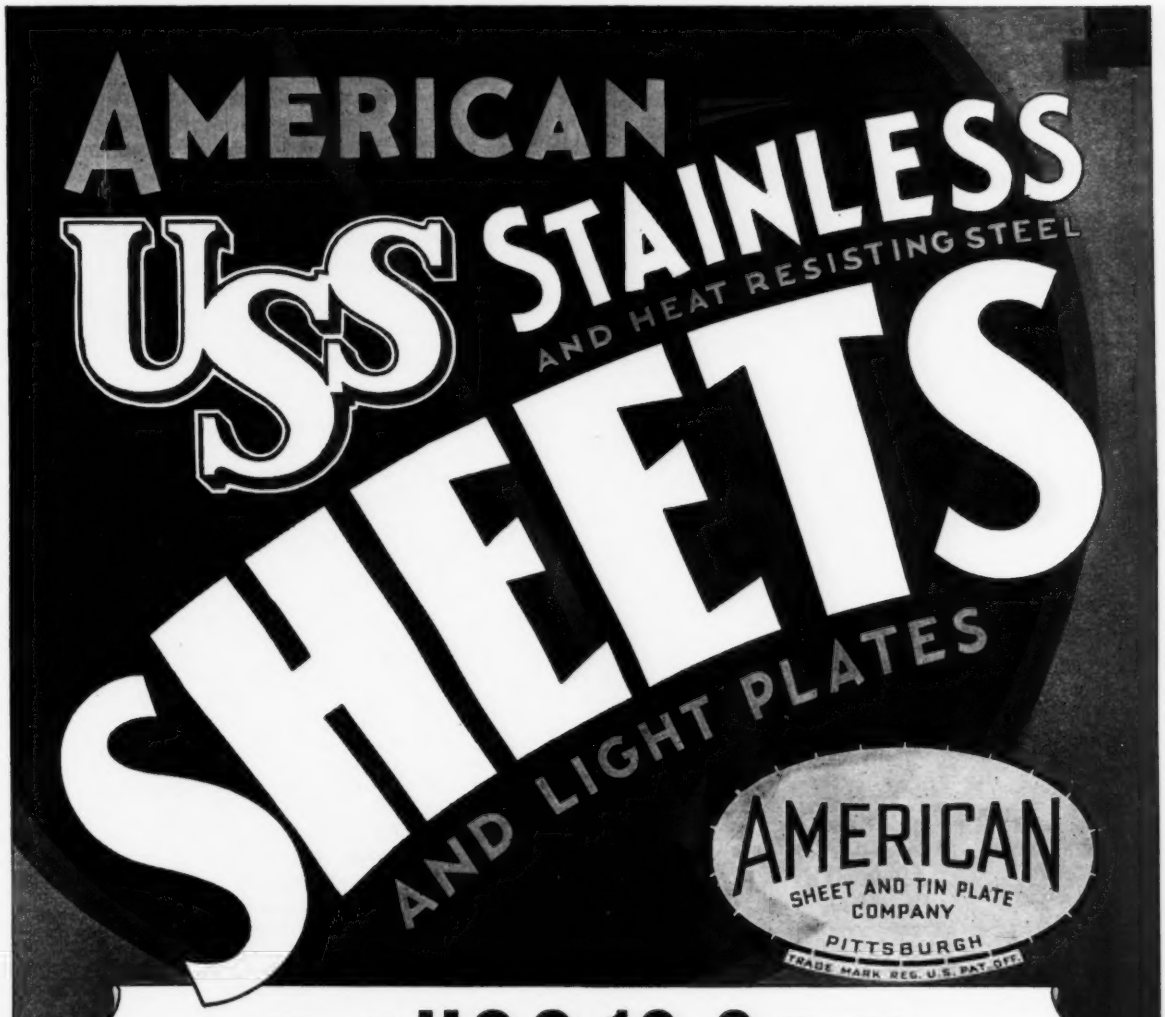
Old Jessup & Moore Building

An outstanding matter of trade interest during the week was the evidence of activity in a building which, for many decades, has been the landmark in the paper district. Workmen are now engaged in putting into shape the old Jessup & Moore Building on Sixth street and running along Ranstead street to South Marshall street. This structure, owned by the Drexel Estate, was erected perhaps two-score years ago for the Jessup & Moore Paper Company, and at that time and for many years after was virtually the hub of the local paper trade. With it are associated memories of the late William H. Sharp, vice-president of the Jessup & Moore Paper Company; of David Martin Patton, and of such other old timers in a business sense but still active and lively factors in the present day paper trade as Eugene W. Fry, President of the Jessup & Moore Paper Company and Edwin A. Weihenmayer, the vice-president of the company.

Almost a score of years ago after the retirement of the Jessup & Moore Building, the building was occupied by the D. L. Ward Company, both as warehouse and sales room; subsequently though a change was made of the warehousing facilities of the D. L. Ward Company, the building remained the firm's office, executive and sales room headquarters. Upon the removal of the D. L. Ward Company a half decade ago, the building became vacant and remained so until the present time. Trade interest in evidences of re-occupation were great not only because of the historic character of the building but because of a report that it might be involved in an impending change of importance which has been indicated in these columns. A representative of the Drexel Estate announced to your correspondent today that the new tenants would be the Hyde & Rakestraw Company, Inc., cotton yarn dealers, now located at 226 Chestnut street in a block, the occupants of whose buildings have been notified by the Government to vacate that these buildings may be razed for the construction of a new Custom House. Though the new occupants of the Jessup & Moore Company building are not directly in trade circles, the congeries of paper houses within the shadow of the building—J. L. M. Smythe Company, Wilcox-Walter Furlong Paper Co., Garrett-Buchanan Co., John Simmons' Sons, stock dealers, and others, rejoice that the so long vacated corner will now again resume a live business aspect. They feel that all will benefit as a result of the re-occupation.

Credit Bureau Successful

There is scheduled for this week another meeting of the Credit Bureau, conducted by the Typothetae of Philadelphia and functioning for the Paper Trade Division of the Typothetae, and for the practically synonymous Paper Trade Association. Despite financial conditions, the Bureau continues to function in the highly successful and gratifying manner which has been its record since its establishment. The statement is made that during the past year there was collected for the paper trade members, the sum of $29,484.74, representing probably five times the amount of dues of contributing members. One of the activities of the Bureau has been to supply information regarding credits and during last year exactly 2020 inquiries were received and answered for the paper trade—a number in excess of that brought by the printing trade departments. Since the establishment of this bureau, its gross collections have been $538,650, and it is figured out that this sum represents return of collections of bad debts of $2.23 for every dollar paid in on membership dues. D. W. Bond, treasurer of the D. L. Ward Company, is Chairman of the Division.



USS 18-8

is produced from Chromium-Nickel Alloy Steel for a wide range of applications. This alloy offers the widest adaptability of all the grades of the U S S series, for uses in which beauty, appearance, and unusual physical properties are important considerations—whether from the standpoint of utility or ornamentation.

Chromium-Nickel Steels
Austenitic
❖
USS 18-8
USS 18-12
USS 25-12

AMERICAN USS Stainless and Heat Resisting Steel Sheets and Light Plates are produced by this Company in a moderate range of compositions, as indicated—and a number of finishes. Your selection of these products to meet particular requirements may be made with the assistance of our technologists, who will be pleased to serve you. Write for information.

USS Chromium-Nickel Alloy Steels are produced under licenses of the Chemical Foundation, Inc., New York; and Fried. Krupp A. G. of Germany.

Chromium-Alloy Steels
Ferritic
❖
USS 12
USS 17
USS 27

This Company manufactures Black and Galvanized Sheets, Formed Roofing and Siding Products, Special Sheets, Tin and Terne Plates for all purposes

American Sheet and Tin Plate Company
GENERAL OFFICES: Frick Building, PITTSBURGH, PA.
SUBSIDIARY OF UNITED STATES STEEL CORPORATION

PRINCIPAL SUBSIDIARY MANUFACTURING COMPANIES:

American Bridge Company
American Sheet and Tin Plate Company
American Steel & Wire Company
Carnegie Steel Company
Columbia Steel Company
Cyclone Fence Company
Federal Shipbuilding and Dry Dock Company
Illinois Steel Company
National Tube Company
Oil Well Supply Company
The Lorain Steel Company
Tennessee Coal, Iron & R.R. Company
Universal Atlas Cement Company

Pacific Coast Distributors—Columbia Steel Company, San Francisco, Calif. *Export Distributors*—United States Steel Products Company, New York, N. Y.

New York Trade Jottings

Louis De Jonge & Co., coated paper manufacturers, New York, have filed notice at Albany of reduction of their capital stock from $2,000,000 to $1,500,000.

* * *

The regular weekly luncheon and meeting of the Eastern Division of the Salesmen's Association of the Paper Industry was held on Monday last at the Hotel Roosevelt, New York. All present participated in an interesting and instructive round table discussion of business conditions.

* * *

Summerfield Eney, Jr., of the New York offices of the Champion Coated Paper Company, was the guest speaker at a meeting of the Printing Estimators Club of New York held at the Printing Crafts Club on Tuesday last. The subject of his address was, "The Salesman Estimator *v.* the Estimator Salesman."

* * *

Walker-Goulard-Plehn Company, Inc., mill distributors of paper, of 448-450 Pearl street, New York, have recently taken on the export agency of the Hammermill Paper Company in most of the Latin American countries and at present, Joseph Borrell, of the company, is travelling in Latin America pressing these particular lines.

* * *

James A. Burke, J. A. Tracy, James Burke, Jr., Harold Burke, A. Cook, James E. Butler, Willard A. McClellan and B. J. Grieco, all members of the sales force of the Lincoln Paper Company, have joined the sales force of the Walker-Goulard-Plehn Company, mill distributors of paper, of 448-450 Pearl street, New York. The various mill lines formerly handled by the Lincoln Paper Company will be sold by the Walker-Goulard-Plehn Company.

* * *

J. Andersen, of J. Andersen & Co., importers of chemical and mechanical pulp, 21 East 40th street, New York, sailed for Europe last Friday on the liner *Bremen* for an extended business trip through Germany, Norway and Sweden. He was accompanied by Olof Dymling of the firm of Jacob Versteegh, Stockholm, Sweden, representatives of J. Andersen & Co. at Stockholm. Mr. Dymling has been spending some time in this country studying the pulp situation.

Paper Mill Foreman Killed

MECHANICSVILLE, N. Y., November 10, 1932—Leary O'Toole, a foreman at the plant of the West Virginia Pulp and Paper Company, was instantly killed in an accident which occurred early in the week at the barge canal terminal here. He was supervising the work of unloading a shipment of pulpwood when in some unexplainable manner he fell from the boat and sustained injuries which proved fatal. A broken neck was given as the cause of death following recovery of the body from the water. A wife and brother are the principal survivors.

New Knife and Saw Grinding Catalog

Samuel C. Rogers & Co., manufacturers of automatic knife grinders and automatic saw sharpeners, of Buffalo, N. Y., have just issued a new four page illustrated price list covering their line of knife and saw grinding machinery.

Two new grinders are described: one a combination machine for wood and metal cutting band and circular saws known as the Improved No. 4; also a bench type electric utility grinder for knife, saw, tool or disc grinding.

Dayton Cog-Belt Drives

The Dayton Rubber Manufacturing Company, of Dayton, Ohio, is now distributing a new condensed catalog on Dayton Cog-Belt Drives which has been prepared in response to numerous requests for a more compact edition adaptable for office files or for sectional catalog binders.

In spite of its compactness, no data has been omitted. And the selection of the proper Standard Drive for any condition has been further simplified. Complete prices and dimensions are included as well as simplified data for the calculation of special drives where required.

Thus, it provides complete data for office use as well as a more convenient handbook on V-Belt Drives for machinery representatives, distributor salesmen, and others who need compact finger-tip information in their daily work.

Copies of this new catalog will gladly be mailed to any interested parties. Simply ask for Catalog No. 105 Condensed.

New Power Dam Completed

APPLETON, Wis., October 31, 1932—Construction work has been completed by C. R. Meyer & Sons Company on the new government power dam on the lower Fox River at Little Chute, Wis., where mills of the Combined Locks Paper Company are located. Work was begun last May.

About $80,000 was spent on the new dam, a modern concrete structure replacing an old dam of timber cribbing filled with stone and backfilled with clay. The former dam was built in 1878.

The dam now consists of 230 linear feet of sluiceway with nine steel gates operated by a combination five horse power electrically driven and hand power hoist. The hoist, with walk and housing, is mounted upon tracks. Navigation is carried through a canal at the north end of the dam, principally for the shipment of coal by boat to paper mills and other industries of the Fox River Valley.

Heating Systems for Grays Harbor

Fibre Making Processes Inc., Chicago, Ill. have just completed shipment of three Circ. and Indir. Heating Systems for Grays Harbor Pulp and Paper Company, Hoquiam, Wash. The equipment consists of strainers, piping with valves, circulating pumps and heaters. All material in contact with the liquor is made of chrome nickel steel.

The first F. M. P. Circ. and Indir. Heating System was installed at Rhinelander Paper Company, Rhinelander, Wis. about a year ago and since that time a second unit has been put in operation by the same company.

Fibre Making Processes Inc. report a live interest in their system on account of the better quality of pulp obtained, the increased yield, the saving in steam and chemicals and the possibility of using low pressure extraction steam where an excess of same is available.

To Rebuild Dry Rosin Size Plant

The Dry Rosin Size plant of the American Cyanamid and Chemical Corporation at Valdosta, Georgia, was severely damaged by fire on Friday, November 11. The fire was caused by a short circuit.

The plant will be rebuilt immediately on a considerably enlarged scale due to the ever growing demand for their Dry Rosin Size from the paper and pulp manufacturers.

During building operations at Valdosta, there will be no interruption of service whatsoever as shipments of Dry Rosin Size will be made from two other plants of the American Cyanamid and Chemical Corporation.

Confidence-

OVER the side and down . . . down . . . down.

A hazardous stunt?

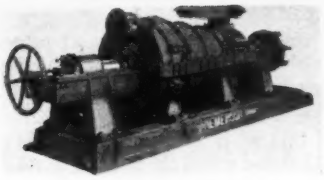
No more hazardous, in a way, than papermaking under present conditions!

Today, with inventories held to a minimum, orders delayed until the moment of absolute necessity and prices shaved to the closest fraction, a papermaker has no leeway. Like the parachute-jumper, he has to *choose equipment that has his complete confidence.*

It's a matter of financial life or death. There is no margin for waste or inefficiency.

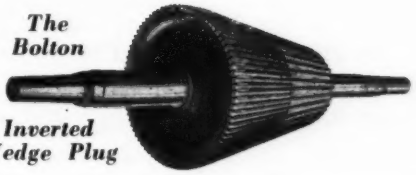
With Emerson Jordans and Beaters . . . and with Bolton Knives and Plugs . . . you need no margin. Back of them stands the reputation of a company long associated with the industry. Into them go the finest engineering skill, the finest materials, the finest workmanship. Choose them and you can have perfect confidence in the quality and the economy of your beating and jordaning equipment.

The Emerson Jordan



The Emerson Beater

The Bolton Inverted Wedge Plug



JOHN W. BOLTON AND SONS, Inc.
The EMERSON MANUFACTURING CO.
Lawrence - - - - - - - - - - Massachusetts

5527

Glazed and Fancy Paper Men Meet

The regular quarterly meeting of the Glazed and Fancy Paper Association was held at the Hotel Kimball, Springfield, Massachusetts, Tuesday, October 18. During the day there was a meeting of the executive committee of the Distributors' Division, of the Manufacturers' Division, and a luncheon followed by a joint meeting of members of both divisions. Sixteen member companies were represented and in all twenty-seven persons were present.

President MacLaurin of McLaurin-Jones Company presided. After luncheon he announced that unfortunately it had been impossible for S. L. Willson, president of the American Writing Paper Company to be present and be the guest speaker.

The sales promotion committee presented their report based on a large amount of thought and investigation of the problem of promoting sales of glazed and fancy paper. Edwin G. Straus, Charles Matthias, F. V. Friedlander, and A. L. Schlesinger all spoke about the intricacies of the problem. The question of whether or not the association was willing to appropriate a sizeable amount of money for sales promotion was put to a vote. The majority did not approve of such an appropriation.

Some problems in the work of registering members' embossing designs were settled by the adoption of two rules. One rule provided that any application for registration of an embossing design or trade name could be submitted by the secretary to the arbitration committee for final decision. The arbitration committee was empowered to submit the design or trade name to the members for assistance in making their decision if they desired.

The other rule adopted was to instruct the arbitration committee to reject for registration any embossing design or trade name that was an imitation or near imitation though not an exact duplicate of a previously registered design or trade name.

The idea of registering printed designs of an exclusive nature was discussed. This had been tried a few years ago but it seemed that now since the embossing design registry plan has developed effectively that it may now be possible to register exclusive printed designs with equal effectiveness.

Elmer S. Moore, vice president of the Keller-Dorian Paper Company, Inc., New York City, was present and his company was elected to membership in the Distributors' Division.

It was voted that it be understood that any paper company that fabricates paper which competes with this industry is ineligible for membership.

The matter of quantity schedules was the topic for a brief talk by E. W. Zentgraf of Louis Dejonge & Co. He felt that the schedule needed some revising and that it also needed to include definite price differentials for the different quantities in order to reflect the fixed charges of handling an individual order. The matter was referred to the Trade Customs and Conference Committee of which Mr. Zentgraf is Chairman, report to be made at the next meeting.

Sales of job lots and the problem as related to manufacture was also discussed by Mr. Zentgraf. He stated that there is a market for job lots for covering cheap boxes for cheap merchandise. As long as the price received for job lots is greater than the gross profit on firsts the manufacturer is not penalizing himself by selling his job lots and seconds.

The next meeting will be held in New York City at the Hotel Commodore at a date to be decided, probably Thursday, December 15.

Indianapolis Demand Slow

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., November 14, 1932—The coming of cold weather has stimulated business a trifle, but demand is slow and just now, other than the holiday demand, there likely will be little improvement until after the first of the year. The local jobbers are holding their stocks to a low level until after inventory and much the same is true of manufacturers.

According to some of the tag and label men, there are some signs for a good holiday business. Demand already has picked up materially and will remain good until the middle of December at least. The box factories also, particularly those who manufacture boxes suitable for gifts say they are receiving more inquiries than they had expected.

Just what will happen to the holiday demand for fine papers is somewhat problematical. The trade admits the present postal rates are expected to cut into the volume of mail matter sent out by the stores this year. The newspaper officials say they are expecting volume equal to that of last year and perhaps better. The radios have cut into the advertising budgets of the larger stores to the detriment of the paper trade.

However, confidence seems to be returning. For one thing all unnecessary overhead in every plant dealing in or making paper products has been reduced to the lowest possible point. It is believed that in most plants all the employees who will have to be dispensed with have gone and that unemployment has been checked at least.

With somewhat improved prices, the paper stock men this week were a little more hopeful. This stiffening in prices is not due to any particular demand from the mills, but there is a scarcity of paper stock according to leaders here. Any sales at present prices will show more profits than formerly for the local trade has been paying the lowest prices in years for stock.

American Writing Makes Reductions

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., November 15, 1932—Sidney L. Willson, Thursday last, announced a further cut in wages and salaries at the mills of the American Writing Paper Company, Inc., in this city. The heads are to take a 25 per cent cut and others a 10 per cent cut. His statement follows:

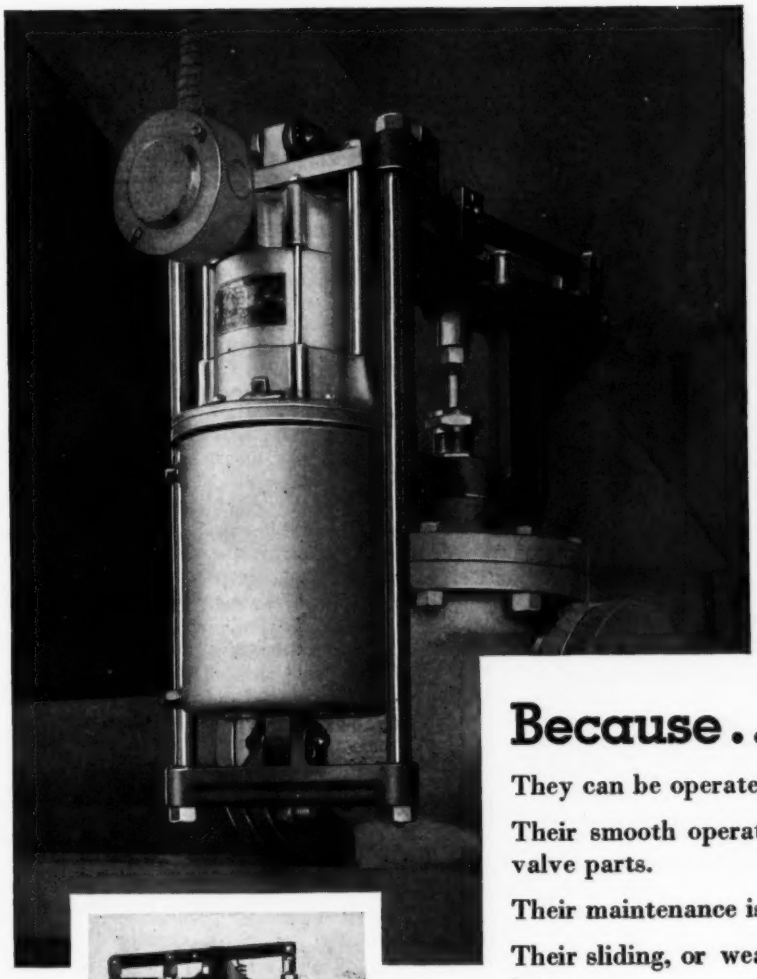
"Because of the continued drain upon our assets during the past twelve months—even with economies already effected—and because of further increases in our overhead due to much higher taxes, non-operating mills, lower prices and lower volume of business, it is necessary to again readjust salaries and wages.

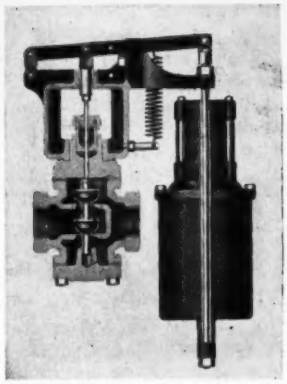
"This action has been deferred as long as possible in the hope that an early return of better business conditions would make it unnecessary—but the improvement has not materialized sufficiently to warrant the continuance of the existing rates.

"I am sure you will realize that this change is made only because our heavy losses must be checked in order that the company may not be compelled to reduce the present force, but will be able to give employment to, and spread the work over as many as possible under present conditions.

"No one can regret as much as I do the necessity of this action—but we must all face existing conditions and loyally contribute our share for the mutual benefit of those connected with the company. The officers of the company will contribute twenty-five per cent of the amount thus saved, and have borne a like percentage on all previous reductions."

Why THRUSTOR Valves?





G-E Thrustor valve of double-seat, balanced type. Unseat Thrustor valves also available. A wide range to fit every need. Ask for a copy of our publication GES-848, "Why THRUSTOR Valves?"

Because....

They can be operated from a remote point.

Their smooth operation eliminates impact of valve parts.

Their maintenance is negligible.

Their sliding, or wearing, parts are the minimum.

Their operation is easy to change in the field, from normally open to normally closed.

Their motors cannot be overloaded, and they consume little power.

Operation makes for control simplicity.

Get the facts on Thrustor valves—then check up your present valves! Your nearest G-E office will help; or address General Electric Company, Schenectady, New York.

301-116

GENERAL ELECTRIC

Saving Waste Paper

In a recent release by the Department of Commerce, householders all over the United States have been encouraged to believe that it is now profitable for them to save their waste paper, particularly newspaper. The executive Secretary of the Waste Paper Institute, believing that such advice not only is unsound but will be misunderstood by Department Stores, Owners of Office Buildings and the many thousands of others producing mixed paper, has written the Department on the matter as follows:

"Some of the daily papers which have come to my attention have carried a story put out by the Paper Division of the Department of Commerce in relation to Waste Paper, particularly old newspapers. I would be interested to know what prompted the Department to issue a notice of this kind at this time. Waste paper dealers throughout this country have been making a desperate struggle for the past two or three years to keep in business. To make any profit has been out of the question entirely. It does not seem to our industry that at a time like this the Department of Commerce should be holding out hopes to the householders that they are to get paid for their newspaper accumulations, particularly when there has been no time in recent years when they could possibly be justified in expecting such payment.

"You will note from a clipping which I enclose that on the strength of the notice which you sent out, producers of all classes of waste paper have jumped to the conclusion that such material is now worth real money. As a matter of fact, the biggest portion of waste paper produced is made up of mixed paper which is still bringing to mills only $4 a ton. I am sure, without having any actual knowledge of handling, packing and transportation charges involved, you will realize that at this price it is hardly possible for the collector and packer of waste paper to pay anything for it. I can readily understand that in times of national stress such as during the recent war period when conservation of natural resources was of the utmost importance, your Department would be justified in taking an interest in getting out all the waste paper available, but in times such as we are now going through, the condition of those in the industry is so precarious that any propaganda in the interest of getting out waste paper whether suggested to you by the consuming mills or initiated by your Department, is only adding to the difficulties of those trying to maintain themselves in an industry for which a depression is nothing new.

"I trust that my frank statement of the situation will appeal to you as a reasonable position to take and that in the future your Department will not lend itself to any propaganda which however laudable from a conservation standpoint, can only make it more difficult for an industry to continue to exist.

"It is of course, possible that I have misinterpreted the motive which caused you to release the statement referred to above and in this connection would appreciate your advising me as to what object you had in mind.

"Should the occasion arise in the future when it seems necessary or wise to send out notices of this kind, I would be pleased to put all the facilities of our Institute at your disposal with a view of getting at the true facts."

Lewis Plant Speeds Output

[FROM OUR REGULAR CORRESPONDENT]

BEAVER FALLS, N. Y., November 10, 1932—Increased production has been placed in effect at the mill of the J. P. Lewis Company, which has resulted in the observance of a night shift. Full time day schedules are also being maintained with a normal working force being employed steadily.

Pacific Coast News Print Problems

It is learned that Pacific Coast news print mills continue to operate five days a week with a percentage of capacity production substantially higher than in the East, but it is probable that they will eventually feel the effects of price-cutting in the East. Changes will not come now but may come before January 1. This is the opinion of leading operators who have regarded recurring price readjustments downward with some anxiety. According to the executive of one of the Coast's news print mills, there will be no change in price for the balance of the year. Until the present confusion in the East was clarified, he said, operators on the Pacific Coast would be unable to make any definite plans.

In past years British Columbia has usually been able to hold aloof from Eastern price fluctuations inasmuch as their field is pretty much confined to territory not covered by Eastern mills. In the course of time, however, they have usually been obliged to alter their schedules in conformity with Eastern changes. When Powell River Company and Crown Zellerbach Corporation, the other Pacific Coast large news print producer, set a base price of $50 a ton about a year ago they established this market as the lowest price zone on the continent, for at that time the prevailing standard price in the East was $53, although some mills were probably shaving that figure on some sales. The $50 price was regarded then as the minimum figure at which news print could be sold in fairness to producer and consumer.

A serious factor in the coast news print situation is the continued competition from Swedish mills which have been able to ship through the Panama Canal and land cargoes in San Pedro, San Francisco and Seattle at prices lower than the coast mills' list price. The Scripps-Canfield group of newspapers, one of the largest on the Coast, has been one of the chief customers of Swedish paper.

Donnacona Plan Approved

MONTREAL, Que., November 10, 1932—From Quebec it is announced that the scheme of reorganization of the Donnacona Pulp and Paper Company insofar as it affects the shareholders has been approved by Mr. Justice Emile Gelly in Superior Court. The petition asking for approval of the scheme was presented by S. G. Dixon, K. C., of Montreal.

The main feature of the scheme relative to shareholders is the reduction of the capital from 200,000 shares to 15,000 shares and an increase of the capital shares from 15,000 to 244,892 shares of which 15,000 will be class B shares which will go to old shareholders.

Reduction of the issued capital stock of the company and increase of the unissued capital stock is also part of the scheme.

Western Paper Co. Leases Building

INDIANAPOLIS, Ind., November 10, 1932—The large three-story building at 110-112 West Columbia street, Fort Wayne, Ind., has been leased to the Western Paper Company. The lease, constituting one of the largest transactions of the year in downtown business property, will move the company from 427 East Berry street and will be occupied about December 1, according to Roscoe C. Taylor, Fort Wayne, manager of the company.

The new building has three stories and a basement is 37 feet wide and 110 feet long. Mr. Taylor stated the new location will give his company many advantages in the way of location and space, railroad and warehouse facilities. It is in the center of the wholesale district. The front of the main floor will be devoted to offices.

ABSOLUTE AUCTION SALE

Without Limit ***Without Reserve***

The Complete Equipment of The Luzerne Paper Mill
Hadley, Saratoga County, N. Y.

By Order of Adirondack Realty Holding Corporation

The property to be sold has an appraised value of approximately

$75,000.00

CONSISTING OF

1—5 cylinder Sandy Hill 102″ Board Machine trimming 93″. Five 8 plate flat screens. 3 sets baby presses 100″ face. 3 sets primary presses. 30 Dryers 36″ x 95″, triple deck. One 5 roll Lobdell Breaker Calender Stack; one 7 roll Farrell Finishing Calender Stack, rolls 99″ face. One 2 bowl upright reel, and one two shaft Downingtown Winder. Machine equipped with Marshall Back Drives. This is a right hand drive machine. Wet End equipped with top felt.

1—Rice, Barton & Fales Harper Fourdrinier machine, wire 78″ wide, 48′ long, trimming 65″. 4 suction boxes, two primary presses 72″ face; 20 dryers 36″ x 68″ equipped for top and bottom felts, double deck. 1—5 roll Breaker Stack; one 8 roll Sandy Hill Finishing stack. Two bowl upright reel. Pusey and Jones two drum winder and slitter. This is a left hand drive machine.

BEATERS: 3—1400 lb. E. D. Jones double lighter, wooden tubs, two right and one left hand drive. 3—1000 lb., double lighter iron tub E. D. Jones, two right and one left hand. One 1200 lb. Niagara Valley Iron Works Beater.

JORDANS: 2 Noble & Wood Monarch Jordans. 3 Emerson standard jordans.

2 Moore & White 6 x 12 stock pumps. Three Gould triplex stock pumps; 2—6″ x 10″; one 7″ x 10″. One 5″ x 8″ Buffalo duplex pump, steam driven; also Water Pumps. Two 300 H.P. Babcock & Wilcox water tube boilers. One 7 blade Sturtevant force draft fan. One 278 H.P. Bull Steam Engine. 1—1000 lb. capacity Ridgeway Hydraulic Elevator. One Sturtevant Hot Air Heating system with Multivane Fan. 1—8 Blade fan 36″ dia. 2—Buffalo Forge blowers, one is a No. 4 blower, other is a No. 6 blower. One double end Energy Grinder. One Koegel circular knife grinder. One large Lathe, 20″ swing. One Fire Pump, steam driven, capacity 100 gals. per minute. 2 Woodward mechanical governors. One 150′ Jeffrey Belt Conveyor. Several General Electric Generators and motor generator sets, AC, 3 phase, 60 cycle, all complete. Also one 20 and two 75 H.P. motors, same current.

And numerous other items more fully described in a catalogue which will be mailed upon request

SALE WILL BE HELD ON MILL PREMISES
HADLEY, N. Y.

ON THURSDAY, DECEMBER 1st, 1932
at 10:30 A.M.

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GIBBS-BROWER COMPANY INC., Agents
401 BROADWAY, NEW YORK CITY.

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Auctioneer and Appraiser
7 West 24th St., New York City.

PAPER TRADE JOURNAL
ESTABLISHED 1872

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Vol. XCV New York, November 17, 1932 No. 20

We have moved to
15 West 47th Street,
New York City

Our new telephone number is
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LOCKWOOD'S DIRECTORY OUT

The fifty-eight edition of Lockwood's Directory of the Paper and Allied Trades is just off the press. While the depression of the past several years has not affected the pulp and paper industry as severely as other basic industries, it has affected the industry rather seriously and this fact has made necessary more than the usual number of changes in practically every section of the Directory.

The changes have been especially heavy in the Mill Section. These changes are reflected more particularly in the personnel of the various concerns, caused by reorganization and various other incidences to which business is susceptible in times like the present. The list of idle pulp and paper mills has naturally shown a material increase, although the number of idle mills, under all the circumstances, is less numerous than might have been expected. A careful analysis of the Mill Section, in fact, bears out the guess that has been frequently ventured, namely, that the pulp and paper industry has been weathering the depression much more satisfactorily than practically any of the other great industries.

The Mill Equipment and Supplies Department, added to the Directory last year, has been very favorably received by the industry. In this department are listed without charge manufacturers of pulp and paper mill machinery and supplies under as many headings as necessary for an adequate showing of their products. This department may, therefore, be considered as representative of the machinery and supplies required by the entire pulp and paper mill field. If eligible new concerns or eligible concerns who may have been omitted will inform the publishers, their names will be included in the next edition of the Directory. Addresses of firms are not given under the various headings, but an alphabetical list of all the firms listed is printed on page 1024. In general, the approved methods in compiling a work of this kind have been followed, furnishing an easy and valuable source of information for everything in the line of machinery and supplies required in the manufacture of pulp and paper.

More than the ordinary number of changes have taken place in the trades allied with the pulp and paper industry. It has been endeavored carefully to ascertain all these changes. It may, therefore, reasonably be expected that all the sections, in addition to the Mill Section, are as accurate and complete as it is humanly possible to make them, including the Classified List of Pulp and Paper Mill Products, the Paper Specialties Section, Glazed, Coated Paper and Board Manufacturers, Rag and Paper Stock Dealers, Rags and Paper Stock Consumed by the Mills, General Paper Merchants, Paper Box Manufacturers, Paper Bag Manufacturers, Envelope Manufacturers, Papeterie Manufacturers, Pulp Testing Chemists, Office Addresses of Mills and Mill Supply Houses, Trade Associations and the Watermarks and Brands.

The Directory this year contains 1059 pages as compared with 1040 pages in 1932. This increase in the size of the directory under present conditions when the size of even the most representative publications, almost without exception, has been so obviously reduced is not only evidence of the high standing of this work in the field it covers, but another indication as well of the comparative stability of the pulp and paper industry.

The Directory is issued in two editions, the regular edition of more than 1000 pages and the Travelers' edition of approximately 250 pages. The latter contains only the mill information and measures 5 x 8 inches. It is attractively bound in a flexible cover. This edition in general is designed to be as compact and convenient as possible to meet the special needs of traveling men. Only a limited number of this edition is issued. The cost of each edition is $7.50 or $7.00 cash with order.

Orders for the Directory should be sent to the Lockwood Trade Journal Company, Inc., New York.

PAPER MILL EMPLOYMENT INCREASES

Increased employment was shown in September in the paper and pulp and paper box factories compared with August according to the Bureau of Labor Statistics, Department of Labor.

The Bureau received reports from 400 paper and pulp mills which gave their September employment at 78,409, an increase of 2.6 per cent compared with August but a decrease of 6.8 per cent compared with September of last year. The average September weekly payrolls in these mills was $1,406,154 an increase of 5.6 per cent compared with August but a decrease of 23.1 per cent compared with September of last year.

Reports were also received by the Bureau from 310 paper box factories which gave their September employment at 19,718 an increase of 4.8 per cent over August but a decrease of 16 per cent compared with September of last year. The average weekly September payrolls in these plants was $357,796 an increase of 11.8 per cent over August but a decrease of 24.1 per cent compared with September of last year.

Waste Paper Hearing Before Rail Executives

At a meeting of interested shippers and consumers of waste paper and rags held in the offices of the National Association of Waste Material Dealers, Inc., on August 11th, a Committee was appointed consisting of W. Fred Clark, of the National Association of Waste Material Dealers, Inc., and the Waste Paper Institute, Charles J. Browne of the New York Association of Dealers in Paper Mills' Supplies, Inc., Osborn Van Brunt, of the Certain-Teed Products Corporation, and Felt Manufacturers Association, E. G. Siedle, of the Armstrong Cork Company and Hard Surface Floor Covering Traffic Council, C. L. Whittemore, of the New England Paper and Pulp Traffic Association and C. M. Potter of the West Virginia Pulp and Paper Company, to appeal to the railroad executives from the decision of the Eastern Commodity Rate Revision Committee which proposed to make rates on waste paper and rags throughout Official Classification territory on basis of 25 per cent of first class, minimum weight 30,000 lbs., and 27½ per cent of first class, minimum weight 24,000 lbs. In accordance with the action taken at the meeting the Committee submitted the matter to the Traffic Executives Association for Official Classification Lines and was accorded the privilege of an oral argument before that association at the Trunk Line Association at New York on November 10.

Mr. Clark, in speaking for the National Association of Waste Material Dealers, Inc., and the Waste Paper Institute, pointed out the unreasonableness of the present rates as well as the discriminations which were prevalent throughout entire Official Classification territory. He condemned the carriers' proposed basis of 25 and 27½ per cent of first class rates and stated that carriers' willingness to meet motor truck or water competition where it existed would not effect a cure or benefit the carriers but would only result in further discrimination as against other producing points whose rates remained unchanged by reason of the absence of such competition. He advocated a basis throughout entire Official Classification territory of 20 per cent of first class, minimum weight 30,000 lbs., to alternate with 22½ per cent of first class, minimum weight 24,000 lbs., without prejudice to again coming before the executives for a lower basis of rates in the event that the suggested basis did not accomplish the purpose sought, that is, a free and unrestricted movement of paper stock without discrimination and the elimination of competition from other forms of transportation.

Mr. Browne, of the New York Local Association, told of the difficulties which the New York packers were experiencing in their endeavors to market their product. Mr. Van Brunt described the situations with which the Certain-Teed Products Corporation, was confronted, particularly with respect to their plants in the vicinity of Buffalo, N. Y., and Marseilles, Ill., and explicitly stated that unless they were accorded a basis of rates at least as low as 20 per cent of first class that they would be compelled by force of circumstances to resort entirely to trucking in those districts. He also pointed out similar situations affecting other members of the Felt Manufacturers Association. Mr. Siedle, for the Armstrong Cork Company, stated that the carriers' proposed basis, if made effective, would result in increased freight charges amounting to many thousands of dollars on the raw materials consumed at just one of the plants of his company and also that even the 20 per cent basis would have a tendency to increase their freight bill. Mr. Potter, of the West Virginia Pulp and Paper Company, and in fact all of the members of the Committee, supported the proposition of the National Association of Waste Material Dealers, Inc., for a 20 per cent basis and also adopted the remarks of the other speakers as expressing his own views.

Research on Paper Containers

Dr. Edward R. Weidlein, Director, Mellon Institute of Industrial Research, Pittsburgh, Pa., has announced the renewal of the Robert Gair Fellowship for research on moisture-proofing and grease-proofing paperboard for cartons and boxes. The fellowship was established in 1931 by the Robert Gair Company, Inc., of New York, for the purpose of developing improved moisture-proofing and grease-proofing qualities in paper boards, used for boxes, to keep pace with the advances made in package merchandising.

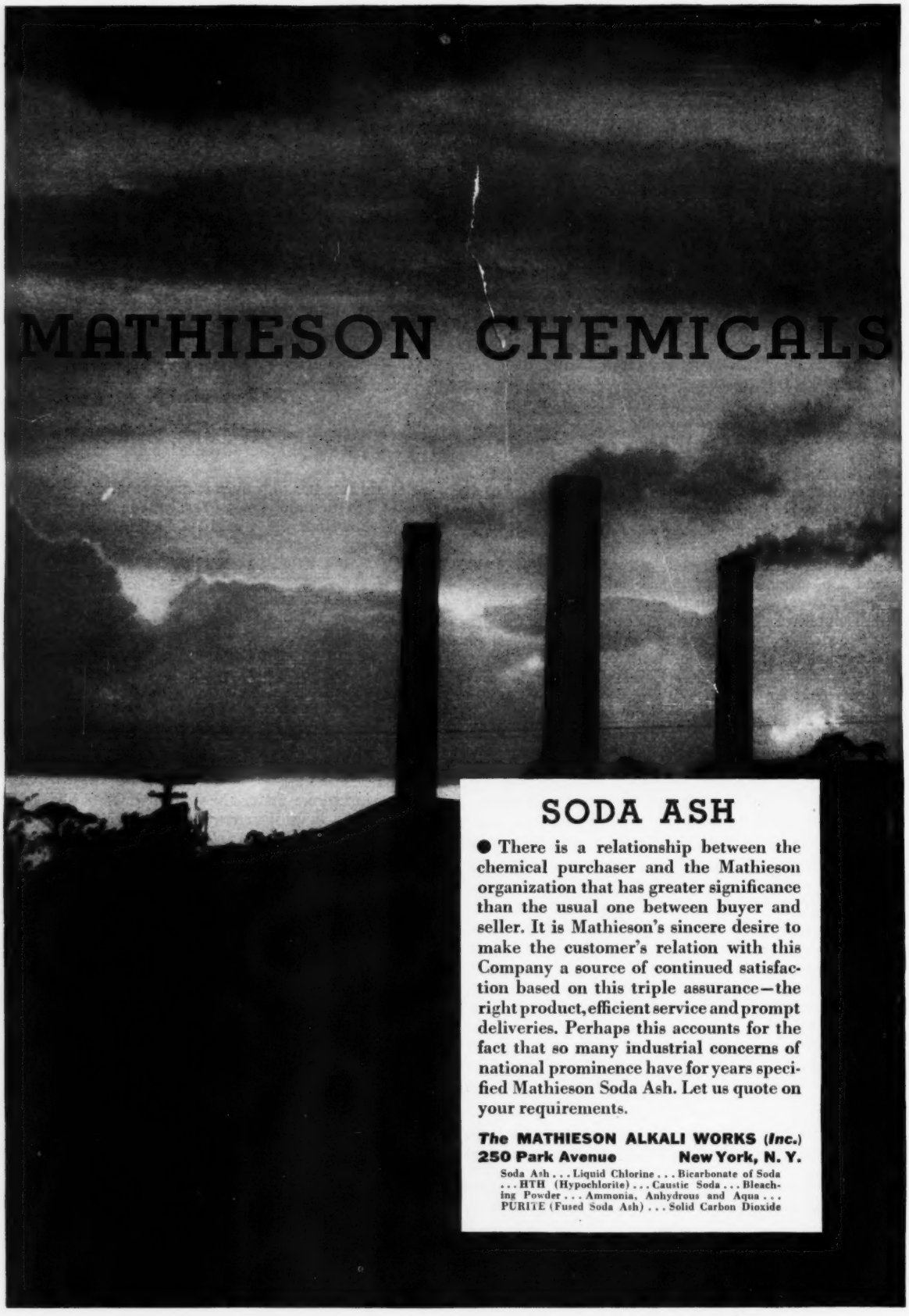
Several notable improvements have already been made available to the industry as a result of the researches of the Gair Fellowship, Dr. Weidlein said in making the announcement. Among the most important is the development of a new adhesive for joining difficult-to-paste materials, as, for example, highly waxed paper board and moisture-proof sheet cellulose. Particularly in the food industries, Dr. Weidlein said, it is frequently desirable to use a carton made of a wax-coated paper board. When it was sought to improve the merchandising qualities of such a package by providing an inner liner of sheet cellulose or a transparent cellulose window, the problem of a satisfactory adhesive was at once apparent. Dr. Marion D. Coulter, who has conducted the scientific studies under the Gair Fellowship, succeeded after a few months in perfecting an adhesive for this purpose that is now in actual use.

The work done under the Gair Fellowship has also resulted in the development of another adhesive for sticking one waxed surface to another. Both of these improvements are of great importance because they make available to package users a great many types and styles of packages which could not be used heretofore because of the difficulties involved in their production owing to the lack of a satisfactory adhesive.

The work of the Gair Fellowship for the ensuing year will be devoted to the major problem of developing moisture-proof and grease-proof coatings for paper boards, with Dr. Coulter in charge.

Stebbins Plant Improvements

WATERTOWN, N. Y., November 10, 1932—Extensive improvements are being made by the W. C. Stebbins Company, of this city, which include the installation of a laboratory for the purpose of giving paper mills immediate service in the matching of various shades of paper colors. The new department will be in operation within a few weeks under the direct supervision of Homer M. Rice, technical demonstrator for the E. I. Dupont de Nemours & Co., of Wilmington, Del., who has had many years of experience in such work. Officials claim that the new laboratory is being installed for the benefit of paper mills in all sections of the state.



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Section of the
Technical Association of the Pulp and Paper Industry
Edited by Ronald G. Macdonald, Secretary

Acid Penetration in Sulphite Pulping*

Ralph B. Hansen[1] and Svarre Hazelquist[2]

A review of the literature pertaining to sulphite pulping at once reflects a very fine study which has been given to its advancement. Federal, State and private research laboratories, the industry and its affiliated organizations and associations all have left their impression on the strides which have been made. However, in spite of all this the atmosphere of the sulphite mill is permeated with an element of uncertainty. There is still a lack of information.

In discussing "acid penetration in sulphite cooking" it is generally accepted that a high "free SO_2" content in bisulphite cooking liquor increases the rate of penetration of the "combined SO_2" into the chip. However, there is little available information regarding the extent of this greater rate of penetration or how the problem is affected by the moisture content of the wood, etc.

It is the purpose of this paper to supply such missing information as may help to answer these questions. In other words, to evaluate the penetration of free and combined SO_2 with different acid concentrations, with different acid temperatures, with different moisture conditions, with different cooking pressures, etc. Conditions which are impractical or not apt to be found in commercial practice are not considered.

Penetration is the absorption by some object, of a foreign substance; which in our case is cooking liquor. It is purely a physical phenomena and will be treated as such. The chemical aspect of the picture will only be used as a modifying agent. In any physical absorption there are five major controlling influences: (1) The temperature influence upon the viscosity of the solution carrying the absorbed particle. (2) The concentration of the particles to be absorbed. (3) The velocity at which the absorbed particles move. (4) The size and weight of the particles to be absorbed. (5) The physical characteristics of the absorbing object, such as moisture content, cellular structure, etc.

In the penetration of the free and combined SO_2, the temperature should be expected to have a very decided part for: (1) With a higher temperature, and therefore lower viscosity, an easier flow into the wood is obvious and (2) the temperature has also a very marked effect on the velocity of the particles being absorbed; a higher temperature giving a much higher velocity to the sulphite molecules.

That the concentration of the penetrating particles has something to do with the rate of absorption is self evident: (1) The physical law, that up to a certain point an increase in concentration causes an increase in absorption, indicates that a greater concentration must necessitate a higher penetration. (2) Due to the common ion effect, the higher "free SO_2" will have an increasing effect upon the penetration of its heavier associate, the combined.

The size and weight factors must of necessity have much to do with the penetration. The heavier "combined" with its formula $Ca(HSO_3)_2$ is nearly three times as heavy as is the "free" with its formula H_2SO_3. In all cases the "free" shows this characteristically greater penetration.

The moisture variable should affect the penetration to a very marked degree. This is found to be true. With a saturated chip there would be little or no tendency for the liquor carrying the particles to be absorbed. That is, there would be no flow into the chip. With a bone dry chip the penetration would be expected to be slow, for it is well known that a thoroughly dry substance is harder to wet than one containing some moisture. We should, therefore, expect the greater penetration at a moisture content somewhere between these two extremes.

So much for the theory of penetration or absorption. Bearing in mind that we cannot violate or disregard the physical laws involved, let us now proceed to review some experimental work:

Experimental Data

The wood used was true Western Hemlock (Tsuga Heterophylla). It was personally selected as being representative of that used in the normal operation of the sulphite mill. It was taken from the chipping plant and cut

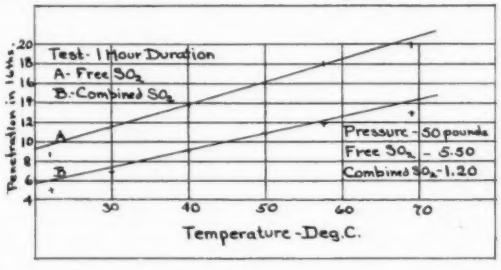

FIG. 1
Penetration vs. Temperature. (Concentration and Pressure Constant).

* Presented at the fall meeting of the Pacific Section of the Technical Association of the Pulp and Paper Industry, Seattle, Wash., October 21-22, 1932.
[1] Member TAPPI, technical director, Pulp Div. Weyerhaeueser Timber Company, Longview, Wash.
[2] Chemist, same company.

into 3-inch cubes. Some of the cubes were further reduced in size to blocks 1½ inch on the side by 3 inches long to allow them to be used in the laboratory retort. The wood was of uniform and normal structure. Except for the variable moisture series, the wood was of a very uniform and representative water content. This variation was less than 1 per cent. For the moisture series, special care was taken that uniform moisture conditions held throughout the block. To obtain the 5 per cent moisture a special vacuum oven was used. The 58 and 33 per cent moisture was obtained by soaking in water and then conditioning for three weeks before any tests were run. Moisture tests for different cross-sections were made to insure that a uniform water content had been obtained.

Cooking liquor containing 5 and 6 per cent free SO_2 was obtained from the regular mill storage. The "lower free" acids were obtained by "gassing off" a sample of regular cooking liquor. For the 8 and 10 per cent free SO_2 regular cooking liquor was strengthened by the use of liquid SO_2. The combined was kept as uniform as possible, 1.17 per cent being tried for in one case and 1.25 per cent in the other. The variation was slight.

The apparatus used for pressure and temperature variations was an autoclave, consisting of a flanged 6-inch copper pipe with an iron cover. The cover was fitted with a temperature well, a pressure guage and an arrangement for filling with liquor. The blocks were carefully placed within the autoclave, the cover was bolted on and the acid was run in. In some cases the charge was "shut in" with a given pressure (hydrostatic pressure being obtained by a connection with the cooking acid storage system). In other cases, the acid was continuously run through under this same hydrostatic pressure. A water bath, equipped with steam coils, gave the required temperature. The autoclave held about 12 quarts of acid when full.

The remainder of the series were run in the laboratory. using a wide mouth two liter bottle as a retort. The bottle was equipped with a rubber stopper fitted with a thermometer. The stopper was held in place by a clamp fashioned from two short boards and two tie rods. The temperature control consisted of a flame heated water bath, fabricated from an ordinary water pail.

All acid tests, i.e., for total free and combined were run by standard methods as given in Volume III of The Manufacture of Pulp & Paper.

The penetration of the "free SO_2" was defined by the use of brom phenol blue indicator. Brom phenol blue is blue in neutral or alkaline mediums but in acid solutions it is yellow. This indicator gave very reliable results. The penetration of the combined SO_2 was defined by the use of methyl orange indicator, as specified by Miller of the Forest Products Laboratory. His description is given fully on page 103 *Chemistry of the Sulphite Process.* In several cases where this indicator did not give a sharp definition brom thymol blue was used. In all cases the penetration is given in sixteenths of an inch from the end of the block. Very little penetration was indicated as having taken place from the sides. In general, the penetration cannot be measured to an accuracy greater than one sixteenth of an inch. However, this error is probably smaller than others inherent with experiments of this type. The close agreement of the tests are, therefore, on the whole, very gratifying. When there was a question as to whether the data could be plotted as a straight line or a curve, the straight line was favored as giving a better indication of the general tendency.

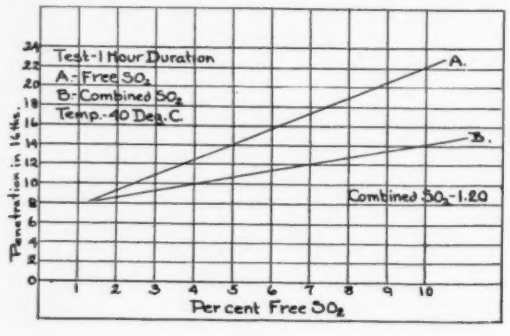

FIG. 2
Penetration vs. Concentration. (Temperature Constant).

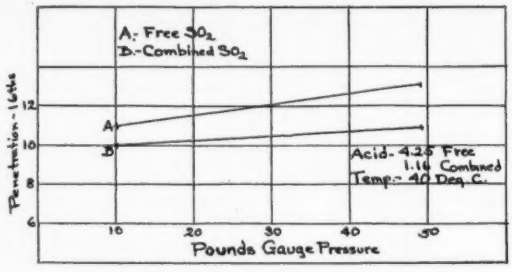

FIG. 3
Penetration vs. Pressure (Concentration and Temperature Constant).

Discussion of Results

During the running of this experiment a large number of figures were obtained. They are not given here, however, as it is thought that by a plotting of these figures one against the other a more concise and clearer picture is obtained.

Referring to Fig. 1, it is seen that a prediction made earlier in this report is decidedly true. A higher temperature, in accordance with one of the physical laws, gives a greater rate of penetration; also that the combined and free, when so plotted, are practically parallel lines. This should be expected as the effect of temperature should be as great in either case. That a higher temperature gives a lower viscosity is well known, and that a chip will absorb a solution more rapidly at higher temperature may be readily shown by taking two similar blocks of wood; covering one with boiling water for six hours and covering the other with cold water for a similar length of time. It will be found that the one covered with hot water will be nearly saturated while the other will have absorbed but very little water.

Fig. 2 shows than an increase in concentration causes an increased rate of penetration. In the case of the free

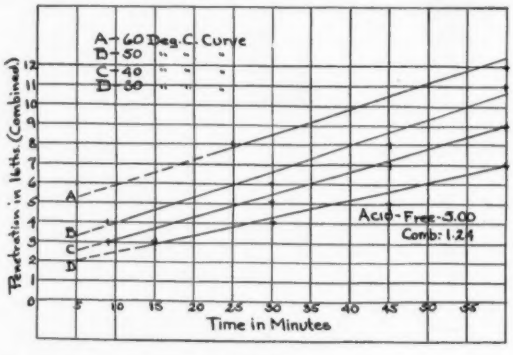

FIG. 4
Penetration vs. Time for given Temperatures. (Acid Concentration Constant).

SO_2 this is rather marked. In this case, the combined does not follow in a parallel line. This is to be expected for the concentration of the combined has not been varied. For this reason, the only increase in penetration of the combined is caused by its relationship with the more active free.

Fig. 3 shows that pressure above that necessary to hold the gas in solution has very little to do with penetration. At least this is true within the limits of ordinary practice.

Fig. 4 shows that the penetration is a straight line function of the time. That is, within the degree of penetration required, there is as rapid a penetration for the last quarter of the first hour as there was during the first quarter. The reason that the curves do not reach zero probably lies in the fact that the pores (cells) of the wood having been cut at the end of the block, give a nearly instantaneous penetration to their full depth.

Fig. 5 is a curve derived from Fig. 4. A specified penetration is taken and the time required for that penetration is plotted against the corresponding temperature. Seven-sixteenths was taken for the curve plotted. This is a good penetration for average chip lengths of ¾-inch standard. Similar curves for different chip lengths can be readily derived from Fig. 4.

Fig. 6 gives a very good indication of the variation in penetration due to different moisture contents. This curve also follows from one of the, previously referred to, physical laws. For example, the saturated block gave a lower penetration than did the block having 33 per cent moisture. The block being already saturated, there was very little tendency for the water to mechanically carry into the chip the combined SO_2. That the 5 per cent moisture sample did not give as good penetration as the 33 per cent is to be expected for it is extremely hard to wet a thoroughly dried surface. Although Fig. 6 is not as complete as it might be, the general tendency is clearly shown. The maximum penetration will be obtained at some moisture content lying between 40 and 50 per cent. The reason for the lack of more points is explained by the fact that nearly three weeks' time is required to get the samples to a uniform moisture content.

Conclusions

From the results of these tests it may be concluded that penetration is not a deciding factor in the handling of a sulphite digester, especially with initial acid temperatures of 35 deg. C. or higher. It is nearly impossible to bring a commercial digester of any size to 110 deg. C. before penetration of the chips is complete, unless initial acid temperature is under 35 deg. C.

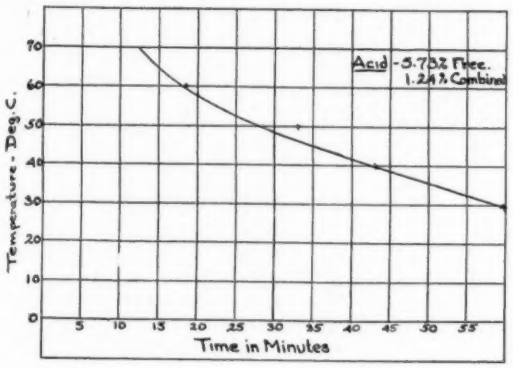

FIG. 5

Time vs. Temperature for a given Penetration of Combined SO_2. (7/8 inch).

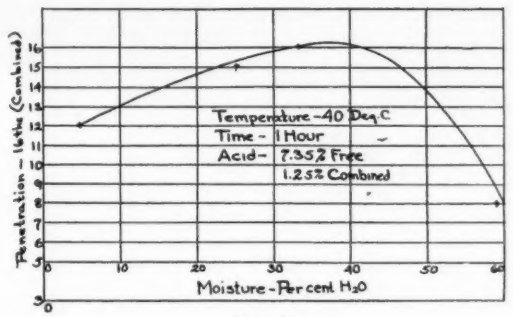

FIG. 6

Penetration vs. Moisture (combined). (Constant pressure, temperature and concentration).

It is not necessarily true that complete penetration has not taken place because a large amount of "brown" chips are present at the end of the cook. These may have been caused by not having enough combined SO_2 present, by local overheating, etc. If local overheating has been great enough it is possible that a chip be "browned" even the penetration has been thorough.

In general, an increase in acid temperature brings about an increase in the rate of penetration. An increase in free SO_2 increases the rate of penetration of the free SO_2 to an even greater extent, and somewhat increases the penetration of the combined SO_2 but to a somewhat lesser extent.

Pressure above that necessary to hold the gas in solution has very little effect on penetration.

Penetration is a straight line function at the time.

A moisture content of 30 to 40 per cent is the most favorable for a quick and thorough penetration.

TAPPI Notes

F. Norman Beveridge formerly superintendent of the Hummel-Ross Fibre Company, Hopewell, Va., is now superintendent of J. C. Wilson Ltd., Lachute Mills, P. Q.

T. J. Waltmon who formerly represented the Simonds Worden White Company in Portland, Ore., now represents the Ohio Knife Company in Portland.

M. L. Rubin has resigned his position in the research department of Fraser Paper Ltd., Madawaska, Maine, and is now located at 16 Sterling street, Springfield, Mass.

The annual meeting of the Technical Section of the Canadian Pulp and Paper Association will be held at Montreal on January 25 and 26, 1933.

The annual meeting of the Technical Association of the Pulp and Paper Industry will be held at the Pennsylvania Hotel, New York City, on February 13 to 16, 1933. Papers must be in the hands of the Secretary, 370 Lexington Avenue, New York, before January 1, 1933.

The November meeting of the Lake States Section of TAPPI has been changed to Tuesday, November 15, at the Conway Hotel, Appleton, Wis.

The Inter-Society Color Council will hold its second annual meeting at the College of Pharmacy, 113 West 68th Street, New York, December 28, 1932.

The A. S. M. E. will hold its annual meeting in New York on December 5 to 9, 1932.

Erving Paper Co. May Expand

[FROM OUR REGULAR CORRESPONDENT]

ERVING, Mass., November 14, 1932—The Erving Paper Company, of which M. Housen is superintendent, contemplates an addition to the paper mill, but it is indefinite when the project will go ahead.

Static Electricity In Paper*

By Myron W. Black[1]

Static electricity is one of the ever recurring troubles in the lives of some of the users of printing papers. Many causes have been given for its occurrences and the remedies for it are as many as the leaves on the trees. Nevertheless it is a real trouble to the printer and a source of many complaints to the manufacturer.

The purpose of this paper is to explain its characteristics, generation and abatement from a theoretical standpoint.

"The Manufacture of Pulp and Paper" Volume 2, under Elements of Electricity says—"There is really only one kind of electricity, but since it manifests itself in two widely different forms in so far as their effects are concerned, it is customary to divide it into two classes (1) static or frictional electricity (2) dynamic or current electricity.

"Static or frictional electricity is generated by rubbing together certain unlike substances. It is to be noted that the electricity produced by friction stays where it is generated until it is discharged, as it is termed, by bringing the electrified body in contact with or near another body. An electrical charge may be conveyed from one point to another by means of what is called a conductor. While all substances will conduct electricity, some of them conduct so badly that for all practical purposes they do not conduct at all; such substances are called insulators or non-conductors. Glass, rubber and gutta percha are the best examples of insulators; practically they do not conduct electricity at all. *Pure* water and air are also very poor conductors."

Taking the foregoing statements, which are essentially the same in all texts dealing with electricity, electricity may be divided in another way, static electricity or the electricity common to non-conductors and dynamic electricity or the electricity of conducting bodies.

The different phenomena of the two classes of electricity may be easily explained when we consider them from the standpoint of dynamic electricity. The energy of static electricity, since it cannot be conducted away, builds itself up in the form of voltage or pressure with infinitesimal amperage. The higher being the voltage the greater its capacity to jump and the voltage of static electricity is limited by its distance from the nearest conducting body provided of course the source of energy is not removed. Static electricity discharges itself to a conductor or to a non-conductor which has a lesser charge than the charge which is released. Since the body holding a charge is generally a non-conductor, just because one charge may be released from the body by no means signifies that all of the electricity that the body carries has been released. Dynamic electricity is merely a comparatively continuous flow of electrical charges such as are liberated by the discharge of static electricity.

The electrical resistivities of a few different materials are as follows—

Silver	1.629×10^{-6} ohm-cm
Copper	1.724×10^{-6} ohm-cm
Aluminum	2.828×10^{-6} ohm-cm
Iron	10×10^{-6} ohm-cm
Carbon	11×10^{-4} ohm-cm
Red Fibre	5×10^{9} ohm-cm
Glass	5×10^{13} ohm-cm
Hard Rubber	1×10^{18} ohm-cm

[From Handbook of Chemistry and Physics (13th edition).]

The range of conductors and non-conductors would seem to be quite widely separated from this table.

This is not the case as materials may be found which will adjust themselves throughout the whole gap shown in the table but as they are of no particular value from an electrical standpoint they have not been studied particularly concerning their resistance.

It will be noted that red fibre is thrown high among the non-conductors. Red fibre is essentially paper, or in other words, paper is a most effective insulator or non-conductor of electricity.

To analyze the effect of the different properties of paper on its resistance, paper must be divided into its compound parts, cellulose and closely related impurities of the water used in its manufacture. Cellulose is known to be very resistant to the conductance of electricity. The fillers commonly used are clay or talc. These two are classified in the insulator class. The remaining ones which might not be classified as insulators deserve further mention.

Pure water is very low in electrical conductivity. Especially pure water may be as low as 0.014×10^{-6} mho but the addition of even small amounts of salts increases the conductivity enormously to where a normal solution of potassium chloride has a conductance 0.102 mho at 20 deg. C. For this reason water is never found in nature without quite considerable conductivity as all such water contains dissolved impurities. Alum is an electrolyte which has this property of adding to the conductivity of water.

From the above facts the following conclusions may be drawn. Static electricity in paper is generated by friction. Static electricity can only exist in paper because it is a very poor conductor of electricity. The conductance of paper will vary with the amount of moisture and dissolved salts which it contains. The logical conclusion would appear to be that a damp sheet of paper will be free from static troubles in handling due to the fact that the electricity is conducted away by the moisture and dissolved salts as soon as it is formed.

If the above conclusions are valid we must also consider where the static is to be conducted to. The base or frame of most machinery handling paper form a very suitable ground. Again a relatively moist atmosphere likewise creates a good conductor.

The humidity of the atmosphere is a most important element. While not only will it help to conduct electricity away it will also determine the moisture content of the paper after it has been handled a few times in the atmosphere.

The old statement was that the moisture content of paper, fabric, etc., varies as the relative humidity of the atmosphere to which it came in contact. This has been challenged lately as not being an absolutely accurate statement but for all practical purposes in the press room it is true. If the atmosphere is dry the paper can not be maintained at a proper moisture content and in the drying process there is also the phenomena of shrinkage in size with its attendant troubles to the printer.

Therefore our final conclusion is that the practical method of alleviating static electricity in paper is by proper control of the moisture content of the atmosphere in contact with the paper.

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* Presented at the fall meeting of the Pacific Section of the Technical Association of the Pulp and Paper Industry, Seattle, Wash., October 21-22, 1932.

[1] Member TAPPI, chief chemist, Inland Empire Paper Company, Spokane, Wash.

Utilization of Sulphite Waste Liquor*

By H. K. Benson[1]

Although the chemistry of the sulphite process has been studied extensively in recent years, most of the attention has been given to the solid residue, pulp obtained in the reactions. It is obvious that such studies will be greatly affected by the physico-chemical variables of the process. Comparatively few analyses have been made of the composition of the wood used, or of the resulting liquor in the process. For every ton of pulp manufactured approximately 2000 gallons of liquor containing in excess of 10 per cent solids are produced. In some cases the discharge of this waste liquor into streams has lead to serious pollution. It is evident that a more intensive study of the uses to which the liquor may be put must be made before it can become a marketable commodity. An excellent bibliography *(1)* of the subject has been prepared; several hundred patents covering its proposed utilization have been granted; and large sums have been expended in unreported research. In this paper it is desired to consider some of the technologic processes available for its conversion into other form or possible useful commodities.

The action of sulphurous acid and of bisulphites on wood in a pulp digester results in the hydrolysis of the hemicelluloses (pentosans) into soluble sugars and in the formation of reaction products with lignin, which are soluble in water. The general descriptive term applied to the main constituent is calcium lignosulphonate. In reality sulphite waste liquor is a mixture of all the lime, sulphur, water, and wood, less its cellulose content, used in the process. It is evident that such a mixture varies in composition and concentration with every charge of the process and certainly with different woods or the cooking methods of different mills.

Since our information regarding the structure of lignin is speculative it is evident that much more work needs to be done in this field before chemical derivatives can be made from it. It seems advisable, for the present, to approach the problem of the utilization of the liquor from a technologic viewpoint and to deal with general characteristics rather than with a definite chemical structure. These comprise its properties as an adhesive or binding agent, for tanning of hides, for the manufacture of alcohol, and for fuel. Its use in the agricultural industry and for the production of dyes, resins, lacquers and other chemical products is not without the range of possibility.

Binding and Adhesive Properties of Sulphite Waste Liquor

The properties which serve to bind or cause substances to adhere are perhaps best typified in the case of glue. The Greek word for glue is "kolla" and the emphasis placed upon the properties of glue has lead to the far-reaching conclusions of colloid chemistry. It is outside the scope of this paper to discuss the colloidal nature of adhesives, but the general characteristics of the more common adhesives such as glue, casein, starch and dextrin are well known. Their tendency toward swelling when water is added and finally dispersing into it in the form of small particles distinguishes them from the crystalloids which form a true solution in water or other solvents. Thus, when ordinary salt dissolves in water, the dispersion is considered to consist of molecules, while the white of an egg is a colloidal solution of albumin. The particles in it are small enough to remain in suspension yet too large to penetrate through parchment or dialyzing membranes that are permeable to salt particles in a true solution. This glue-like characteristic of sulphite waste liquor is obvious when one considers that its organic matter is composed of the non-cellulose constituents of wood such as pentosans and hexosans, resins, and lignin. Under the stresses set up by acids, high temperatures and pressures, these natural substances are converted into sugars and lignin derivatives which have certain resemblances to the simpler glue-like bodies obtained from various plant and animal organisms.

Sulphite waste liquor has been prepared under various names for use as a binder. "Zellpech" (cell pitch), lignone pitch, glutrin and bindex are some of the names given to it in commercial practice. Various methods are in use for its preparation. Its acidity is neutralized with lime and it is then evaporated to 50 per cent solids or even to a dry powder. In both of these forms it has recently found extended use in Sweden for dust laying and road improvement.

Use of Sulphite Waste Liquor as a Road Binder in Sweden

The use of sulphite waste liquor in Sweden for road improvement has rapidly increased in recent years. According to figures quoted in a trade publication *(2)* a Swedish concern sold in 1924, 35,000 kg. liquid sulphite lye (52 per cent dry material) and in 1928 the sale of this lye had increased to 2,090,000 kg. liquid lye and 133,564 kg. powdered lye (90 per cent dry material). It was also used during the latter year in some 40 Swedish towns as well as in a large number of other communities and road districts. The lower half of Sweden has been made practically dustless with sulphite liquor. Three methods of application are described: *(1)* concentrated sulphite liquor; *(2)* lime method; and *(3)* hygroscopic method.

For sprinkling purposes the concentrated liquor is diluted with water in the proportion of 1 part (by volume) liquor to 2 parts water; or if the powder is used, 1 quart (by weight) powder to 3½ parts of water. The quantity applied to the road was 1 kg. concentrated liquor (or ½ kg. powdered lye) per square meter of roadway. In the case of powdered sulphite lye, it was found that solution occurred with difficulty and it is more common to broadcast the powder on the roadway after a rain and then to work the road to secure uniform penetration.

In the lime method the liquor is sprinkled as before but is followed by treatment with milk of lime ($Ca(OH)_2$). The proportion of lime (CaO) content should correspond to 1 to 2 per cent of the dry material in the sulphite liquor. If excess lime is used, the surface of the highway becomes brittle; and if sufficient lime is used, the organic materials in the liquor are not fully precipitated and fixed. As will be explained later, the action of lime results in the formation of precipitates which alter the properties of the liquor.

The hygroscopic method uses in addition to the sulphite liquor a hygroscopic salt such as calcium chloride. The weight of the latter used per square meter of roadway should be the same as the weight of the dry material in the sulphite lye. The preparation of the solution is accomplished by first dissolving the salt in water and then adding the sulphite liquor with proper proportion of water. In actual use, though, the solid calcium chloride in flakes or powder is broadcast over the roadway after treatment with sulphite liquor. It is thought that due to the hygro-

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scopic qualities of calcium chloride, the dampness caused by it will cause the roadway to become more plastic and more resistant than when treated with sulphite liquor alone. It is of interest to note that Klason used calcium chloride to separate by precipitation one of the two different forms of lignin which he believes exist in sulphite liquor.

Lignin Binder in the United States

Sulphite liquor has been used in the United States for roadbinding purposes, chiefly in the state of New Jersey, under the name of lignin binder. The rate of application is stated *(3)* at 0.6 gallon concentrated liquor (50 per cent solids) per square yard. Definite specifications *(4)* have been adopted for the purchase of lignin binders.

It is applied over a 12-foot strip in the center of the roadway and the usual maintenance operations are employed. The main advantage is a reduction in the loss of surfacing aggregates, the replacement of which is equivalent in cost to the lignin treatment. Swedish road engineers comment favorably concerning the road improvement in winter and the ease with which such treated roads may be improved by oil or asphalt. The disadvantages are that the material is not suited for use on gravels that do not contain from 10 to 12 per cent of the clay binder or other active silicious matter. It is evident that pretreatment of the liquor improves its quality and also that a proper selection of aggregate for surfacing affects its value.

Linoleum Cement

It is claimed by linoleum manufacturers that the durability of linoleum is proportional to the quality of the cement used in fastening it to the surfaces which it is to cover. Some of the glues used tend to become brittle in time and others lack in adhesive properties. A cement made by incorporating a clay base and a preservative against fermentation in a concentrated sulphite liquor has been found very suitable for use in the laying of linoleum and is commercially produced for this purpose.. Its successful use in this instance suggests its suitability as an adhesive for building board, ply wood compositions and other artificial building materials made from wood. Such an assumption does not seem unreasonable when we consider the composition of natural lumber to consist of fibers held in place in part by the adhesive qualities of lignin and the hemicelluloses.

Binder for Briquetting Coal

The use of sulphur as a constituent of a binder has been shown *(5)* to have a marked effect on the combustion of a coal briquette. A mixture of 3 per cent sulphur, 8 per cent asphalt and 89 per cent air-dry, non-coking sub-bituminous coal was found to yield a coke-like residue in coking and to hold its shape while burning in an open grate. Such briquettes are now being manufactured on a commercial scale under the name of "paraquets." Sulphite liquor concentrates, due to their content of sulphur and organic matter, have a somewhat similar effect, and the modification of the properties of low grade coals when briquetted with it, is now being investigated.

Sulphite Cellulose Extract as a Tanning Material

It is well known that the bark of wood used in sulphite pulping is rich in tannin content and that the wood itself contains an appreciable quantity (1 per cent) of tannin. It is also thought that a similarity in chemical structure of lignin and some of the tannins exists, moreover, a considerable quantity of sulphite cellulose extract is now used in the manufacture of leather. However, in producing a suitable leather tanning extract from sulphite waste liquor, no attempt is made to separate the specific tannins contained in it, other than by concentration and purification. In other words, we do not know just what components in it are responsible for its usefulness in leather manufacture.

The general procedure followed in the production of sulphite cellulose extract is first to neutralize the free acidity with dolomite lime. To remove the excess lime a calculated amount of sulphuric acid is added and the precipitated calcium sulphate removed by settling or filtration. The residual liquor is then concentrated by evaporation to the desired density which is usually about 30 deg. Bé. Various proprietary extracts are now produced commercially, which differ from each other mainly in the degree of purification and control of acidity. Ordinary sulphite tan has a low lime and iron content and is used in dry dipping processes and fillers. It is sold in tank cars, similar to 25 per cent extract. In the more highly refined super tan, the iron and lime have been almost completely removed and the acidity regulated so as to more effectively control fermentation. It is sold in barrels and has found favor for export. The super tan is also made in powdered form utilizing special types of multiple evaporators and vacuum drum driers.

Alcohol Production

The sugar content of sulphite waste liquor arises from the hydrolysis of the pentosans and hexosans and from the limited hydrolysis of cellulose itself when sulphuric acidity occurs. The manufacture of alcohol from sulphite waste liquor has been attempted in the United States, but without commercial success.

The method suggested by McKee *(6)* provides first for desulphurization of the liquor and the return of the SO_2 to the acid-making system; next, its concentration in a thermo compressor type of evaporator (to avoid foaming) to half its volume or less; the fermentation of the concentrated liquor without neutralization and recovery of alcohol by distillation; and finally the evaporation of the still residues to 50 per cent solids in a mobile pitch ready for use as a fuel under boilers.

With a large supply of cheaper sugar residues available in the United States and with the possibility of cheaper production of ethyl alcohol by synthetic processes, it does not seem very promising to utilize the dilute sugar solutions alone in sulphite waste liquor. It is all the more interesting, however, to note the production and distribution of sulphite alcohol in Sweden. In 1930, its production was carried on in 18 mills and although sales were difficult, they nevertheless amounted to about 68 per cent of the mills' estimated capacity. According to data submitted by Acting Commercial Attache H. C. MacLean to the Bureau of Foreign and Domestic Commerce under date of November 14, 1931, the production and distribution of sulphite alcohol in Sweden in thousand liters containing 100 per cent alcohol were as follows:

			Sales				
Year	Capacity of Mills	Production of Mills	Methylated Spirits	Alcohol Beverages	Motor Alcohol	Export	Total Sales
1918	6,000	3,379.7	1,309.1	....	1,663.6	....	2,972.7
1928	20,000	7,288.4	2,956.9	762.8	2,584.0	852.1	7,155.8
1929	20,000	11,314.4	3,470.9	1,298.0	4,827.8	1,200.2	10,796.9
1930	20,000	15,782.4	4,383.4	1,134.7	7,680.9	476.4	13,655.4

Fuel from Sulphite Waste Liquor

The high content of organic matter dissolved in the waste liquor has interested many investigators in its use as a fuel, and its use as a fuel is usually suggested as the simplest means of disposal. Theoretically the organic matter contained in the liquor from one ton of pulp represents 19,820,000 B.t.u. or in a 150-ton pulp mill it would be equivalent to 100 tons of coal of 14,500 B.t.u., per day or

600 carloads per year. It is evident that a tremendous fuel value exists in this material.

Two methods are available for the separation of this organic matter from the water in which it is dissolved: (1) precipitation, and (2) evaporation. Unfortunately, both of these processes have in this country at least, been confined to pilot plants or else carried out for purposes other than for steam generation or fuel use. Nevertheless, a review of recent technologic processes in this field is timely and interesting.

The Howard Precipitation Process

The fractional precipitation of the solids contained in sulphite waste liquor is attempted in the processes covered by the patents *(7)* of Guy C. Howard, and which are operated in a semi-commercial plant in Wisconsin. In this process a reversal of the digester reaction is obtained:

Digester reaction:

$$CaSO_3 + H_2SO_3 + \underset{(solid)}{\text{lignin}} \longrightarrow \underset{(solution)}{\text{calcium ligno sulphonate}}$$

Saponification reaction:

$$\underset{(solution)}{\text{Calcium ligno sulphonate}} + Ca(OH)_2 \longrightarrow \underset{(solid)}{\text{lignin}} + \underset{(solid)}{CaSO_3}$$

Accordingly the process yields: (1) an inorganic solid consisting largely of calcium sulphite; (2) an organic solid consisting largely of calcium sulphite; (2) an organic solid consisting mostly of lignin; and (3) a residual liquid containing the carbohydrates formed by the hydrolysis of the hemicelluloses in the original wood substance. The description *(8)* of this process shows a considerable outlay for equipment necessary to handle the large volumes of liquor containing the waste matter. It consists of four reaction tanks with settling tanks, storage tanks, reagent tanks, pulps, filters and accessories. In the first reaction tank, the raw waste liquor is treated with lime for the required pH necessary to form a flocculent precipitate which is settled out or filtered as a sludge, washed and returned to the acid-making system ($CaSO_3 + H_2SO_3 \rightarrow Ca(HSO_3)_2$) for reuse in making cooking acid. The overflow from the settling tank above goes to the second reaction tank where it is treated with more lime and the bulk of the lignin is precipitated, settled out, filtered and washed. The organic filter cake from this stage of the process constitutes the material used as fuel. The residual liquor is subjected to a repetition of these processes for more complete removal of both calcium sulphite and lignin leaving a final residual liquor containing the dissolved sugars from the hemicelluloses in the wood. The pollution resulting from the discharge of the latter into streams was found to be only 10 to 25 per cent of the raw liquor as measured by the usual biochemical oxygen demand (B.O.D.) test. It is believed by the operators of the pilot plant that the fuel value of the recovered lignin together with the reclamation of more of the sulphur and lime used in the process will enable such a process to operate on a commercial scale.

The Evaporation Process

Some very extensive studies to determine the cost of evaporation have been made but the recovery of solids for fuel use by this method has not become general. On the other hand, several installations made for this purpose have been abandoned. It is quite evident, therefore, that more small scale experimentation and more attention must be given to preconcentration and to heat transfer conditions before suitable fuel values can be obtained from the organic matter in the waste liquor.

Recent studies made by Badger and Paulson in this country and by Kuhles and others abroad in spray drying have shown very interesting heat balances, but have not yet led to installations.

Sulphite Waste Liquor in Agriculture

Several interesting suggestions regarding the use of sulphite waste liquor in certain phases of agricultural industry have been made. One of these, if developed, might easily lead to large volume consumption, viz., the use of the organic residues for soil humus. F. Fischer *(9)* has shown beneficial results and crop increases from the use of lignite coal applied to the soil. As farm mechanization increases, organic fertilizer materials seem to diminish, leading to renewed search for methods of introducing humus to the soil. One of these is the production of peat as a desirable form of soil humus, the use of which is now quite considerable. Much of it is imported from Germany, the importations in long tons, since 1926 being as follows:

1926	14883
1927	28210
1928	37263
1929	51791
1930	66911
1931	57079

The solids in sulphite liquor have also been the subject of experiments in fertilizer composition. Knoesel's meal *(10)* consisted of equal proportions of concentrated liquor (25 deg. Bé) and Thomas slag. It was contended by Knoesel that the sulphite waste matter caused all of the phosphoric acid in the meal to become citrate-soluble. In plot experiments Bokorny *(11)* and Görbing *(12)* used liquor evaporated to one-fifth of the volume and also to dryness. Bokorny reports increased yields of cabbage, peas and barley. Görbing does not confirm the results obtained by Bokorny. It cannot be said, therefore, that the small amount of experimental work undertaken justifies its use either in mixed fertilizers or as a humus source, but it constitutes an interesting field of experimentation. This seems to be especially warranted by the references of Fischer *(9)* to the large scale experiments of Kiesel and Lieske with humic acid preparations obtained from brown coal which resulted in crop increases of 30 to 100 per cent.

In a more definite way, Fleming and Reedy *(13)* have indicated the suitability of sulphite waste as a raw material for an agricultural spray. They have shown that when hydrogen sulphide gas is passed into sulphite waste liquor, a precipitate is formed similarly as in the reaction

$$Ca(HSO_3)_2 + 5\ H_2S \longrightarrow CaS + 6\ H_2O$$

whereby the lime-sulphur spray material is prepared. The presence of the organic matter seems to keep the sulphur in a state of fine suspension and aids in its spreading power. This latter function has been described more fully by Hurt *(14)* in a bulletin dealing with sulphite waste as an adjuvant to spray materials. He shows that lignin pitch is the best and cheapest emulsifying agent available at the present time. Emulsions made with this material are very stable and are miscible in any proportion with lime sulphur solution, soluble sulphur and Bordeaux mixture. It is effective in emulsifying the lubricating oils commonly used by fruit growers for making oil sprays.

While it is true that such a use constitutes a minor demand, nevertheless its usefulness here may prove suggestive of larger uses in other fields.

Miscellaneous Uses

The color reactions of wood are numerous and apply likewise to the wood residues in sulphite waste liquor. By treatment with nitric acid, Phelps *(15)* obtained a yellow dyestuff from sulphite waste. Condensation products from waste liquors with aromatic amines yielded other dyestuffs. Phillips *(16)* has greatly extended these products using, however, a lignin isolated from corn cobs by the alkali method. He obtained a series of resins which were soluble in a solution of 10 per cent ethanol-benzene and gave the following shades of color when applied in two coats to wood panels:

Resin	Color Shades
Lignin aniline	Reddish brown
Lignin-o-toluidine	Light brown
Lignin-p-toluidine	Mahogany
Lignin cymidine	Dark brown
Lignin-o-nitraniline	Mahogany
Lignin-p-nitraniline	Dark brown
Lignin dimethyleaniline	Dark brown
Lignin-n-toluylenediamine	Light brown
Lignin benzidine	Yellowish brown
Lignin toluidine	Light brown
Lignin-a-naphthylamine	Reddish brown
Lignin-β-naphthylamine	Brown
Lignin furfural	Mahogany

It is probable that similar chemical derivatives of the lignin and other components in sulphite waste can be used as binders for building board and as lacquer or paint materials. At least one of the paints now in commercial use for window shades is made from such material. Printing ink for newspaper use is now produced from sulphite waste liquor in Finland and Norway. In these countries a green laundry soap is also made from sulphite waste liquor.

It is obvious that dry distillation of the solids from sulphite waste liquor will yield condensable products similar to those obtained from wood itself. Attacheé Lund *(17)* states that the Swedish parliament has been requested to appropriate Kr. 150,000 for the construction of an experimental plant in Sweden, which is to use a modification of the German Bergius process for hydrogenating fuel oil from sawdust and sulphite waste liquor. This proposal has the endorsement of the Swedish chemical industry, the Technical University and others. It is added that Bergius has offered to build such a plant at a specified cost, which is taken to be added evidence that the project has merit.

In summarizing this discussion, attention must be called to the meagerness of facts, both technologic and purely scientific, that are available for any intelligent program of utilization. After conferring with many individuals interested in this phase of the industry it is my opinion that the only hope of success in utilization lies in adopting a plan of disposal suited to the locality in which a given mill is situated. At first only a small portion can be sold but eventually larger markets are bound to appear. In the meantime it is not technically unreasonable to assume that enough heat units may be obtained from burning the waste liquor to not only evaporate it but also to cook the wood that produces it as a waste product. This has not been done, but the theoretical margin is large enough so that I believe it can be done whenever serious attention is given to the problem.

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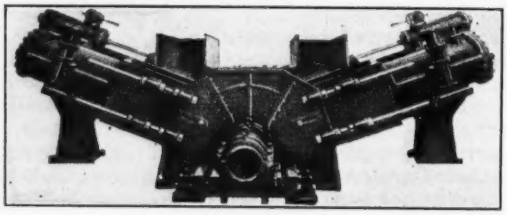
Great Northern's New Grinder Rooms

Considerable interest has been aroused by the Great Northern Paper Company's two new grinder rooms at Millinocket and East Millinocket, Maine.

During the year 1931, two-foot grinders at East Millinocket were replaced with four-foot stones, one of the old grinder rooms being converted into an up-to-date hydro-electric station, with a total capacity of 15,000 kw.



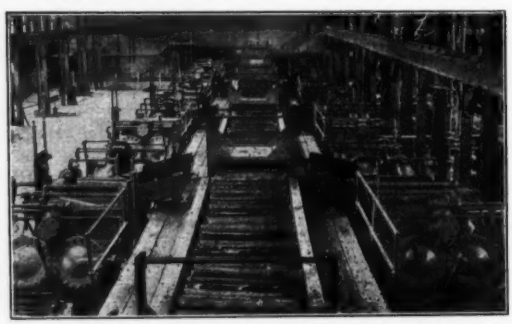
The grinding has been concentrated in one grinder room, twelve new four-foot grinders replacing thirty-five of the two-foot three-pocket type, and six 1500 hp. General Electric synchronous motors being installed to supplement the existing hydraulic turbines. This change was completed in January, 1932.

At Millinocket, work is practically completed upon the replacement of seventy two-foot grinders with the new Great Northern grinder. When the Millinocket change is completed, the Company will have in operation 36 of the new grinders, replacing a total of 105 of the two-foot three-pocket type. No building changes have been necessary for these installations, as no overhead charging floors are required, and existing water wheels have been utilized without changes. The work has been done without interference with normal operating schedules.

The new grinders are of a hydraulically operated, two-pocket type, developed by the Great Northern Paper Company, and built for it by Montague Machine Company. The wide pockets utilize a maximum of the grinding surface of the stone. Each pocket has above it a small magazine, in which one charge of wood at a time is arranged by the operator. The claim is made that this pre-measured charge of wood, which is delivered automatically to the pocket, eliminates binding, grinding of wood on end, and other troubles experienced with the usual types of grinder. The new machines are equipped with Foxboro Automatic Temperature Controls, Ross-Baxter Ventilating Systems, Meyer Governors, and Messinger roller bearings. Artificial pulpstones are used throughout, both Norton and Carborundum stones being in use. Twenty-ton electric cranes facilitate handling of pulpstones and equipment.

The new grinder rooms are impressive in appearance, and differ widely from the usual room. The grinders are arranged in pairs, coupled together by a short shaft. Between the grinders, and slightly elevated, runs a steel water conveyor, with walkways on each side, and short chutes to the grinder pockets. One conveyor serves twelve grinders with four-foot wood, and one operator feeds four grinders from the conveyor with apparent ease. The wood is floated into these conveyors from a large storage tank, the water handling having the effect of washing off dirt and bark particles in summer, and ice and snow in winter.

The illustrations show the new grinder, and a partial view of the Millinocket grinder room, with twelve machines in operation.



Pulp and Paper Industry Literature Review

Abstracts of Articles and Patents Compiled by the Abstracts and Bibliography Committee of the Technical Association of the Pulp and Paper Industry, A. Papineau-Couture, John F. Ohlson, C. E. Peterson and Clarence J. West, Chairman

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Alkaline Process

Pitch problems in sulphate mills. W. F. Gillespie. Paper Trade J. 95, No. 4:25-27 (July 28, 1932).—After discussing the nature of pitch occurrence in sulphate mills and suggesting a hypothesis as to its formation, the author describes an investigation carried out in the pulp mill and paper mill which, though it did not remove the source of pitch troubles, prevented lost-time shut-downs.—A. P.-C.

Pulp from sugar cane. Joaquin J. de la Roza, Sr. U. S. pat. 1,862,177 (June 7, 1932).—Sugar cane fiber is treated with a dilute sulphur dioxide solution and, after storage, is washed and treated with an alkaline solution such as caustic soda or caustic potash to obtain a cellulosic product suitable for paper manufacture.—A. P.-C.

Dry distillation of soda black liquor. Erik L. Rinman. U. S. pat. 1,852,264 (April 5, 1932).—Waste liquor is treated with barium hydroxide and then evaporated to a dry mass capable of being pulverized, and is subjected to dry distillation to produce products such as methanol, methyl ethyl ketome, acetone, acetone oil, etc.—A. P.-C.

Preparation of pulping liquor. Linn Bradley and Edward P. McKeefe assignors to Bradley-McKeefe Corp. U. S. pat. 1,846,672 (Feb. 23, 1932).—The liquor is obtained by evaporating a residual liquor from the treatment of wood with caustic soda and sodium-sulphur compounds and calcininthe residue, smelting it to obtain a mixture composed largely of sodium carbonate and sodium sulphide, treating this mixture with water and sulphiting part or all of the solution.—A. P.-C.

Removing malodorous gases formed in sulphate and soda pulp manufacture. Bror N. Segerfelt. U. S. pat. 1,854,428 (April 19, 1932).—The gases are brought to their dewpoint and treated with hydrocarbons of the terpene or camphor groups.—A. P.-C.

Raw bast fibers for use in roofing felt. Pierre Drewson assignor to The Barrett Co. U. S. pat. 1,850,791 (March 22, 1932).—The fibers are subjected to mechanical and chemical disintegration in alkaline solution containing about 10 per cent of an alkali such as caustic soda or lime based on the dry weight of the fiber at a temperature of about 100°C., to remove intercellular incrusting material.—A. P.-C.

Control of continuous recausticizing greatly improves lime reburning practice. J. V. Slade. Paper Trade J. 94, No. 19:51-54, 58 (May 12, 1932).—A detailed description of the installation at the plant of the Brown Paper Mill Co. Monroe, La., showing its merits and the savings effected.—A. P.-C.

Manufacture of chemical products from the non-cellulosic constituents of esparto grass with the recovery of soda. Jas. MacGregor. World's Paper Trade Rev. 96: 1074-1082; 1210-1217 (April 1, 8, 1932).—An explanation of the Rinman lime-baryta distillation process for the recovery of valuable by-products, bringing out its advantages and possibilities and outlining the chief points of interest of the pilot plant constructed in England in order to bring it to the stage of practical commercial application.—A. P.-C.

Regenerating Spent Alkaline Liquor from Digestion of Cellulosic Material. George A. Richter assignor to Brown Co. U. S. pat. 1,859,888 (May 24, 1932).—Spent alkaline liquor such as results from cooking wood chips with alkaline sodium compounds is treated with sulphuric acid to coagulate org. matter and produce a liquor containing alkali metal sulphate, the coagulated organic matter is separated, and the liquor is acidulated with sulphur dioxide for acid digestion of cellulosic material.—A. P.-C.

Alkali Recovery from Soda or Sulphate Black Liquor. E. L. Rinman. Brit. pat. 354,951 (May 23, 1930).—Oxides of barium or strontium mixed with lime are added in pulverized state to the concentrated waste liquor, and the resulting pulverulent mass may be subjected to dry distillation. Various details of procedure are described.—A. P.-C.

Hydrogenation of waste liquor from sulphate cellulose cooking. Hilding Bergström and Karl Cederquist. Iva 1932, no. 2:40-44; C. A. 26:3663.—Sulphate cellulose waste liquors are not considered suitable raw materials for by-products, because the sulphur content gives bad odors to the by-product. Dry distillation of the liquor with carbon dioxide and hydrogen under pressure in the presence of suitable catalysts produces oils and ethyl ether-soluble tars free from the "sulphate odors."—C. J. W.

Occurrence of ethyl alcohol in crude methanol obtained in sulphate cellulose cooking. Hilding Bergström and Karl Cederquist. Iva 1932, no. 2: 48-49; C. A. 26: 3663.—Crude sulphate methyl alcohol (90 per cent) was diluted with water to separate oils, made acid with sulphuric acid, treated with active earth and distilled to give a 70-80 deg. C. fraction, which was esterified with acetic acid, washed with sodium carbonate solution until neutral, dried with calcium chloride and distilled in a column at 74-77 deg. The ethyl acetate content of this fraction was 97 per cent. Crude sulphate methyl alcohol contains about 2 per cent ethyl alcohol. It is possible that sulphite cooking also produces ethyl alcohol.—C. J. W.

Refractories for Use in Sulphate-Recovery Furnaces of the Pulp and Paper Industries. I. A. Cunliffe and H. E. Clem. J. Am. Ceram. Soc. 15: 321-333 (1932).—The paper gives a short review of the soda-recovery methods used in the kraft process. The tests made to determine the relative merits of different refractories were pyrometric cone softening points of soda-refractory mixtures, simulative service slag tests and petrographic analysis. Tests indicate that resistance is produced by an impervious crystalline structure, such as soapstone for

the low temperatures and electro-cast mullite for the high temperatures or chemical inertness in contact with soda, as in the purer forms of magnesium oxide.—C. J. W.

Industrial determination of hemicellulose in the alkali liquors from the production of alkali cellulose. H. Schmidt. Chem.-Ztg. 56: 273-274 (1932); C. A. 26: 3917. —The volumetric estimation of hemicellulose in alkali liquor by oxidation with potassium permanganate in sulphuric acid solution is vitiated by spontaneous decomposition of chromic acids, the length of time of heating whole being impressed with a pattern the distance between the lines of which is shorter than the average length of the surface fibers.—A. P.-C.

Machinery

Slitting Means. James A. Cameron assignor to Cameron Machine Co. U. S. pat. 1,863,619 (June 21, 1932).—Each score-cutter works in co-operation with a backing roll. The score-cutters and backing rolls are mounted to rotate freely on their respective shafts, and are driven by the pull of the paper web passing between them.—A. P.-C.

Rheostatic Voltage Regulators Applied to Paper Machine Drives. D. R. Smith. Paper Trade J. 95, No. 2:16-18 (July 14, 1932).—A description of the construction and operation of the latest type of General Electric rheostatic voltage regulator for sectional paper machine drives, together with a discussion of its merits.—A. P.-C.

Air Pumps for Paper Machines. Anon. Papeterie 54:595-599 (June 10, 1932).—A brief description of the chief types of such pumps at present in use.—A. P.-C.

Centrifugal Machine for Cleaning Paper Stock. T. Arnold Bryson. Fr. pat. 722,155 (Aug. 25, 1931).—The invention relates to centrifugal machines having a basket with unperforated wall and an inwardly extending flange at the top to retain the light and heavy impurities, while the good stock overflows continuously at the top. The patent provides for two or more co-axial baskets, acting independently of one another.—A. P.-C.

Centrifugal Machines for Cleaning Paper Pulp. Anciens Etablissements Cime, and D. Perrier. Fr. pat. 723,721 (Dec. 9, 1930); Brit. pat. 371,753 (Sept. 30, 1931).—In a centrifuge which separates paper pulp into good stock, light and heavy impurities, the stationary skimmers are adjustable in an axial direction to vary the spaces between themselves and the bowl, the parts concerned being conical or tapering in cross-section.—A. P.-C.

Paper Specialties

Process of Producing Paper. Daniel B. Oblinger assignor to Union Mills Paper Manufacturing Co. U. S. pat. 1,864,852, (June 28, 1932).—The paper is partly calendered and is then moistened to such a degree that thorough permeating of the web does not take place; it is then run through a calender heated to about 212° F.—A. P.-C.

Manufacture of Paper Rolls. Patrick J. Mulligan assignor to Scott Paper Co. U. S. pat. 1,868,115 (July 19, 1932).—Movable adhesive-applying means are provided by which adhesive is applied to the web at the beginning of the winding only. The mandrel is provided with means for holding the beginning of the web to itself during the initial rotation movement, prior to the application of the adhesive, so that the mandrel is protected against being cemented to the paper.—A. P.-C.

Wires, Felts and Press Rolls. L. M. Yoerg and R. W. Pattison. Paper Trade J. 94, No. 19: 42-44 (May 12, 1932).—A discussion of the manner in which wire and felt life may be increased.—A. P.-C.

Standard Fourdrinier Wires. R. M. Watts. Paper Mill 55, No. 17:12, 15 (April 23, 1932).—An explanation of the reasons for the adoption of the Zig Zag wire and of its merits, with a plea for the standardization of fourdrinier wires.—A. P.-C.

Rubber Covered Rolls. W. E. Browne. Paper Mill 55, No. 18:10, 12, 16-17 (April 30, 1932).—An outline of the development of modern chemistry in the rubber industry, as it applies to rubber covered rolls.—A. P.-C.

New Miami Uni-Flo Vat. J. A. Hamm. Paper Trade J. 94, No. 23:54-55 (June 9, 1932).—A description of the construction and operation of the Miami Uni-Flo vat for cylinder machines, bringing out its merits and advantages over ordinary vats.—A. P.-C.

Economic operation in the paper industry. The calenders. Fehlhaber. Wochbl Papierfabr. 63, No. 20; 384-387 (May 14, 1932).—By means of several formulas and curves the author shows possible savings in the operation of calenders. In particular, the amount of time used in the manual handling of the rolls could be appreciably decreased with a consequential great improvement in the economic operation of the calender.—J. F. O.

Belt drives closely examined. Erich Meissner. Wochbl Papierfabr. 63, No. 21:401 (May 21, 1932).—Valuable information and facts given by an expert on the subject of belt drives; equations and illustrations are used in the discussion.—J. F. O.

New ideal method for moistening a sheet of paper. Paper-Fabr. 30, No. 13:163 (March 27, 1932).—This new apparatus, manufactured by Firma Hans Kramel & Co. eliminates all disadvantages of other methods and by means of centrifugal force produces a mist, which is uniform throughout the entire length of the sheet and free from water dropping on the sheet. The amount of moisture to be taken up by the paper can be regulated.—J. F. O.

Method of Making Resin Coated Pulpboard. Harold C. Harvey and Hubert L. Becher assignors to The Agasote Millboard Co. U. S. pat. 1,851,177 (March 29, 1932).—The process consists in superimposing, in order, on one face of a base board of compressed fiber intermingled with a fluxing binder, one or more sheets of fibrous material embedded in fluid artificial resin, a sheet of protective material which will not permanently adhere to the fluid resin, and a piece of sponge board consisting of relatively uncompressed fibers intermingled with a fluxing binder and being sufficiently elastic to act as a cushion to compensate for any unevenness in the surface of the base board or of the platens with which such sheets of fibrous material are to come in contact. The aggregate is pressed at sufficiently high temperature and for sufficient time to render the resin insoluble and infusible and to compact the sponge board to make it suitable for use as a base board.—A. P.-C.

Process of Making Container Board. Arthur R. Harvey assignor to Gardner and Harvey Co. U. S. pat. 1,851,176 (March 29, 1932).—A pitchy binder is heated to maintain its fluidity and a controlled proportion of the pitchy binder is mixed and agitated with an aqueous suspension of clay, and the mixed materials are used for the manufacture of paper such as container board.—A. P.-C.

Roofing. Robert Maclean assignor to Amalgamated Roofing Co. U. S. pat. 1,857,463 (May 10, 1932).—Shaded effects are produced on a strip of coated roofing by dropping a sheet-like stream of granular matter, subdivided into bands of different optical characteristics, upon an inclined surface, blending the areas defined by the adjoining edges of the bands during the passage of the granular material down the surface, and moving the strip

of roofing underneath the delivery end of the inclined surface.—A. P.-C.

Composition Roofing. Harold L. Levin assignor to The Patent and Licensing Corp. U. S. pat. 1,850,680 (March 22, 1932).—The material comprises a felted foundation and an overlying layer of pellets composed essentially of bitumen and fiber.—A. P.-C.

Impregnating Sheets Such as Rag Felt Paper with Asphalt or the Like. Harry E. Holcomb assignor to Fiberbraks, Inc. U. S. pat. 1,854,192 (April 19, 1932).—The sheet material to be impregnated is passed over the top of a series of rolls, the lower portions of which are immersed in a bath of asphalt or the like.—A. P.-C.

Heat-Insulating Material. Meyrl M. Frost assignor to Durowood Industries, Inc., of Detroit. U. S. pat. 1,849,369 (March 15, 1932).—Heat insulation suitable for refrigerators, etc., is molded from a pulp of fibrous material such as wood pulp, jute or asbestos, free moisture is pressed from the material, and it is dried, air is evacuated from it, and the outer ends of the pores are sealed with a material such as "mineral rubber", gilsonite or pitch.—A. P.-C.

Cleaning and Polishing Paper. Robert A. Christie assignor to Papercraft Corp. U. S. pat. 1,851,811 (March 29, 1932).—The invention consists of a sheet of crepe paper having dry cleaning compound deposited and held in the folds of the crimps and on the face of the paper.—A. P.-C.

Fiber Sheet Suitable for Electrical Insulation, Etc. Wm. A. Darrah. U. S. pat. 1,856,946 (May 3, 1932).—A felted mass of fibers such as wood waste material is cemented into an aggregate by a precipitated emulsion of a drying oil. Pitch, resin, tar, oleic acid, triethanolamine, etc., may also be added.—A. P.-C.

Transparent Foils of Paper. Viktor Bausch and Kurt Frenzel. U. S. pat. 1,856,067 (May 3, 1932).—Paper, etc., is impregnated with a 30 to 50 per cent solution of gelatin containing an agent such as an aliphatic alcohol which is adapted to reduce viscosity, and an excess of the hydrosol is maintained on both sides of the material to insure complete impregnation, which is followed by drying.—A. P.-C.

Paper Suitable for Capacitators. Amos L. Allen assignor to General Electric Co. U. S. pat. 1,850,702 (March 22, 1932).—A process for producing a thin kraft paper having a thickness materially less than 0.0005 in. comprises controlling the beating action on the pulp by prolonging the intervals of time between successive adjustments of the beater roll with respect to the bedplate so that the pulp can hydrate sufficiently to withstand the necessary beating action, and increasing the severity of beating at each adjustment so as to ultimately produce fibers which will make a sheet of the specified thickness.—A. P.-C.

Heat-Sensitive Recording Sheet. Francis G. Morehouse assignor to Radio Corp. of America. U. S. pat. 1,850,600 (March 22, 1932).—The surface of the sheet is provided with a coagulant such as acids or acid salts and a wax film.—A.P.-C.

Transparent Papers. Fritz E. Fuchs assignor to The Specialty Products Co. U. S. pat. 1,845,655 (Feb. 16, 1932).—Paper is dampened prior to calendering with a solution containing a relatively low percentage of emulsifiable oil in water.—A. P.-C.

Paper Containing Synthetic Resin. Ernest Lionne. U. S. pat. 1,847,773 (March 1, 1932).—A urea, formaldehyde resin is disintegrated in the water-insoluble stage in a paper beater with paper-making fibers and the mixture is beaten until the jelly resin has been taken up by the fibers; a paper sheet is then formed from the material.—A. P.-C.

Method of Sterilizing, Deodorizing and Bleaching Material for Paper Napkins. Wm. R. Redd assignor to National Paper Napkin Manufacturing Co. U. S. pat. 1,850,808 (March 22, 1932).—Paper pulp (which is to be used for paper napkin manufacture) is treated in transit (as in pulp form and also as a moving paper web) successively with ultra-violet rays and with ozone.—A. P.-C.

Manufacture of Waterproof Tubing from Cellulose Pulp. Milton O. Schur assignor to Brown Co. U. S. pat. 1,854,230 (April 19, 1932).—A wet web of pulp is formed on a cylinder mold and picked up on a carrier felt. The outer surface of the web is roughened while it is being carried by the felt. The roughened web is removed from the felt and simultaneously convoluted into tubing form. The convoluted tube is dried and impregnated with a waterproofing agent of the nature of molten pitch.—A. P.-C.

Molded Articles. N. V. Histoxyl Maatschappij "Histoma". Fr. pat. 719,223 (June 27, 1931).—Molded articles of high mechanical strength and resistance to water are made from cellulose masses in the moist state, which are freed from water by solutions containing binding and hardening agents of relatively high concentration, special force being used to force the solution into the mass and displace the water.—A. P.-C.

Metal-Impregnated Fiber Articles. Mevrl M. Frost assignor to Durowood Industries, Inc. U. S. pat. 1,856,475 (May 3, 1932).—Articles are formed under pressure from a pulp of fibrous material and after being dried are superficially impregnated with material such as copper, lead, tin, bismuth, cadmium, brass or bronze, or glass.—A. P.-C.

Vulcanized fiber. William C. Hirsch. Elec. Mfg. 7:38-40 (Jan., 1931); C. A. 26:3663.—The blends of rag stock are adjusted on the basis of the properties demanded in the finished product. After treatment in a paper mill the cellulose material is unreeled in strips into zinc chloride solution. The latter is then eliminated from the resultant jelly by osmosis and after further washing and treatment with steam heat and high pressure, the sheets are tested and put into storage for seasoning.—C. J. W.

Miscellaneous

The porosity of paper to air. Lhomme et Argy and P. Bard. Pulp Paper Can. 33: 177-179 (June, 1932).—See *Paper Trade J.* 94, No. 15: 32 (April 14, 1932).—A. P.-C.

Use of indigosols for the preparation of safety inks and papers. Fritz Neuber. Mitt. tech. Versuchsamtes 20:63-66 (1931); C. A. 26:3665.—Stable, water-soluble indigosols, *i.e.*, sodium salts of the leuco sulphuric acid esters of various vat dyes, together with an oxidizing agent, are used with or without a substrate to impregnate paper or mix with printing inks. The subsequent application of a hypochlorite or a weak acid produces a coloration.—C. J. W.

Defects in a cellulose caused by the separation of resinous substances. Camillo Levi. Boll. staz. sper. ind. carta e studio fibre tessili vegetali 11:38 (1932).—In a defective cellulose resinous substances were shown to be present by microscopic examination and by chemical analysis.—C. J. W.

Micro-Organism in Paper Making. W. H. Gesell. Paper Ind. 14:297-299 (July, 1932).—A brief review of the properties of micro-organisms found in paper mill

water supplies which can affect the quality of the paper. —A. P.-C.

Qualities Required and Defects to be Avoided in the Manufacture of Paper for Offset Printing. Anon. Papeterie 54:538, 541; 654, 657 (May 25, June 25, 1932). —A general discussion.—A. P.-C.

Rate of Moisture Regain in Paper. R. H. McKee and J. S. G. Shotwell. Paper Trade J. 94, No. 22:35-37 (June 2, 1932).—From their investigation the authors conclude that much of the troubles encountered in high grade printing due to buckling during storage and to changes in size during printing may be greatly minimized by using a moisture content of about 7 per cent, which is the one at which the paper changes least in size and is approximately in equilibrium with most storage conditions found in practice.—A. P.-C.

Temperature Effects on Equilibrium Between Paper Moisture Content and Humidity. R. H. McKee and J. S. G. Shotwell. Paper Trade J. 94, No. 22:33-35 (June 2, 1932).—The moisture content of paper in equilibrium with the surrounding atmosphere varies with the absolute humidity for temperatures between 60° and 110° F.; and even if the temperature is kept constant the relation of the moisture content to absolute humidity is closer than the relation of moisture content to relative humidity. Below 60° and above 110° F. variations in temperature affect the relation of moisture content to absolute humidity. At constant relative humidity, changes in temperature affect the moisture content throughout the whole range from 40° to 212° F.—A. P.-C.

Thermal Problems in Paper Making. Giro Silvio. Papier 35, 291-311; 387-397 (March, April, 1932).—A discussion of various systems for the production of by-product power from process steam.—A. P.-C.

Wood Chemistry Research at Idaho University. Edwin C. Jahn. Paper Trade J. 95, No. 1:47-48 (July 7, 1932).—An outline of the organization, equipment and activities of the Wood Conversion Lab., of the Idaho School of Forestry, University of Idaho.—A. P.-C.

Power Factor and Means for Its Improvement. R. H. Rogers. Paper Trade J. 94, No. 18:35-39 (May 5, 1932).—A discussion of the effects of power factor on the cost and consumption of electric power and on the means by which it may be improved.—A. P.-C.

Champion's New Mill. Russell G. Seip. Paper Mill 55, No. 16:4, 17 (April 16, 1932).—A description of the 242-inch, Pusey & Jones, book paper machine recently installed and brought into production at the Canton, N. C., mill of the Champion Fibre Co.—A. P.-C.

Liquid Chlorine: Its Transportation and Consumption from a Safety Standpoint. N. C. Hobson. Pulp Paper Can. 33:184-185, 202, 204 (June, 1932).—The regulations regarding handling and transportation of liquid chlorine are pointed out, emphasizing the ordinary care which the consumer should take to ensure minimum danger handling.—A. P.-C.

United States patents on paper making: First quarter, 1932. Clarence J. West. Paper Trade J. 94, No. 21:32-34 (May 26, 1932).—A list in numerical sequence. —A. P.-C.

Report of the meeting of the technical committees and the commission for the analysis of fibrous materials of "des Vereins der Zellstoff und Papier Chemiker und Ingenieure," held at Berlin, Dec. 3, 1931. Papier-Fabr. 30, No. 13:146-188 (March 27, 1932).—J. F. O.

Concerning the white water from the pulp and paper industry. W. Steffens, Bautzen. Papier-Fabr. 30, No. 16:266-269 (April 17, 1932).—The author first discusses the different kinds of white water according to the pulp or paper made in the mill and then describes the usual methods for the utilization, or preventing it from becoming a nuisance in streams.—J. F. O.

Collection of the archives of "des Vereins der Zellstoff und Papier Chemiker und Ingenieure." Papier-Fabr. 30, No. 13:225-232 (March 27, 1932).—A list of all the periodicals, divided according to their subject matter, a list of the books, likewise divided, as well as all dissertations and papers presented.—J. F. O.

New TAPPI Members

The executive committee of the Technical Association of the Pulp and Paper Industry announce the following elections to membership:

Wilbert L. Campbell, engineer, Mine and Smelter Supply Company, Denver, Colo., who was for eighteen years a kraft paper maker for the Brown Company, Berlin, N. H. He was previously superintendent for the St. Regis Paper Company, Oswego, N. Y.; the Nashua River Paper Company, East Pepperell, Mass.; and the Warren Manufacturing Company, Milford, N. J. (now the Riegel Paper Corporation). During the past year Mr. Campbell read an interesting paper on the "Marcy Open End Rod Mill," at a meeting of the Delaware Valley Section of TAPPI at Philadelphia.

Richard D. Freeman is a student at the New York State College of Forestry, Syracuse, N. Y. and has had mill operating experience at the Baldwinsville, N. Y. mill of the National Cellulose Corporation.

J. Rich Holland, president, Wiley & Co., Inc., commercial chemists, Baltimore, Md., has been associated with this company for about 25 years. He has studied at Johns Hopkins University.

Herbert L. O'Neill, plant engineer, Falulah Paper Company, Fitchburg, Mass., has been associated with this company since 1919.

Morgan L. Woodruff, chief draftsman, Oxford Paper Company, Rumford, Maine, is a 1912 graduate civil engineer of the Polytechnic Institute of Brooklyn. Mr. Woodruff formerly associated with a number of well known construction engineers such as Charles T. Main, Inc., and M. C. Tuttle Company of Boston.

Sheldon J. Young, recently an assistant chemist at the United States Testing Company, Hoboken, N. J., is a 1931 graduate of the New York State College of Forestry.

New Amthor Tensile Strength Tester

A new tensile strength tester for paper products has just been designed by the Amthor Testing Instrument Co., 309 Johnson street, Brooklyn, N. Y., and is their type No. 270 illustrated. Accuracy, simplicity of operation, and rapidity of test are features stressed. The dial is 8½ inches diameter, is graduated directly in fractions of either pounds or kilograms, and is hand calibrated for accuracy. The dynamometer spring movement is specially designed for tensile testing and is so constructed that proper test sensitivity and elimination of friction are assured by the free-floating movement throughout. When the paper breaks, the pointer remains at the maximum tensile strength reading. Jaws and jaw travel can be had in conformity with recognized test methods for test of any material such as paper, board, cordage, etc.

CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Orange, Tex.—Stockholders of the Commercial Pulp and Paper Company, organized a number of months ago, has approved plans for a bond issue of $500,000, a considerable portion of fund to be used for completion of expansion and improvement program at local mill, formerly the plant of the Yellow Pine Paper Mill Company, taken over by the Commercial company shortly after organization. It is proposed to proceed with development program at once, which includes construction of two new one-story additions, 85 x 175 feet, and 60 x 175 feet, respectively, now under way, and installation of considerable equipment. It is proposed to provide production facilities for an initial capacity of about 80 tons of finished stock per day. Sumner F. Bump is president.

Natchez, Miss.—The Mississippi Pulp Corporation, Natchez, has concluded purchase of local mill of the Mississippi Match Company from the Irving Trust Company, New York, N. Y., receiver for the International Match Corporation, New York, of which the Mississippi company is a subsidiary. A consideration of $72,500 was given for the plant and property. It is said that the purchasing company will occupy the plant at an early date, developing for production of pulp for paper manufacture.

Edgely, Pa.—The Paterson Parchment Paper Company is operating on a good production schedule at its mill at Edgely, giving employment to sizable working force.

St. Louis, Mo.—The International Box and Paper Company, recently organized by Maurice Wright, 451 Hawthorne street, and associates, is said to be planning early operation of local plant for the manufacture of paper boxes and containers. Benjamin R. Henderson, St. Louis, is interested in the new company.

Olean, N. Y.—The Arvey Manufacturing Company, Franklin Street, manufacturer of fiber products, is running on a capacity schedule, with full working force in all departments. A night shift also has been arranged. The company has recently doubled the working quota, as compared with several months ago.

St. Paul, Minn.—The Minnesota Mining and Manufacturing Company, 791 Forest street, has awarded a general contract to William M. Murphy & Son, Pioneer Building, St. Paul, for proposed new additions to local abrasive paper manufacturing plant, recently referred to in these columns. Work will be placed under way at once, consisting of two two-story top additions, each about 46 x 152 feet, to present Nos. 2 and 3 mills. The expansion is estimated to cost close to $40,000, including equipment. Toltz, King & Day, Inc., Builders' Exchange Building, St. Paul, is architect and engineer. In connection with company expansion program at Wausau, Wis., lately noted, it has taken over the property of the Wausau Abrasives Company, including mill units, and will carry out general expansion and betterment program at that site. Work will include installation of quartz-grinding and artificial coloring equipment, to develop raw material source for line of paper-backed composition roofing products. The program is expected to cost about $50,000, with equipment. Harvey Nelson is general superintendent at the Wausau plant. W. L. McKnight is president of company.

St. Louis, Mo.—The Midland Products, Inc., care of the Industrial Bureau, St. Louis Industrial Club, is said to have arranged plans for early operation of a new local plant for the manufacture of a line of paper bags and other paper containers, and will give employment to sizable working force for paper converting.

Bogalusa, La.—The Bogalusa Paper Company, Bogalusa, has secured tax exemption for a period of five years on its mill property by a vote at recent election, and will carry out its development program previously referred to in these columns. Superstructure will be placed under way for two new units, one to be used as a power plant addition and the other as a chemical recovery building. At a later date, other structures will be built. The entire program is reported to cost about $1,250,000, including equipment. The United Engineers & Constructors, Inc., 112 North Broad street, Philadelphia, is engineer for project.

Nekoosa, Wis.—The Nekoosa-Edwards Paper Company has begun excavations for proposed new addition to local mill, for which plans were recently completed. It will be two-story, 60 x 120 feet, and will be used for storage and distributing service, particularly for finer grades of paper stock. It is understood that a portion of the new unit will be used for finishing service. Erection will be carried out by day labor, under supervision of company engineering department.

Old Hickory, Tenn.—The Cellophane Company, manufacturer of cellulose transparent wrapping materials, is running on close to capacity schedule at its local mill, giving employment to regular working quotas in different departments. The plant has run through the entire year up to the present time without a lost-time injury to any employe, and an effort is being made to complete the twelve months with such a record, establishing a national all-time record for exposure hours of workmen without a lost time injury. The duPont Rayon Company, an affiliated organization manufacturing cellulose rayon products, with mill on adjoining site, is establishing a similar safety record among its workers.

New York, N. Y.—The Greater City Paper and Twine Company, 22 West Thirty-eighth street, has leased space in building at 19-21 West Thirty-sixth street, and will occupy at early date for expansion in distributing facilities.

New Companies

New York, N. Y.—Decal Transfers Corporation has

been incorporated with capital of 200 shares of stock, no par value, by Philip McNamara, 27 Park place, and Mortimer Jacques, same address, to manufacture and deal in decalcomania paper transfers, etc. Company is represented by Samuel S. Goldberg, 105 Court street, Brooklyn, N. Y., attorney.

Chicago, Ill.—Chicago Rag and Paper Company, 2325-31 South LaSalle street, has been organized with nominal capital of $5,000, to deal in waste paper stocks. The incorporators are Harry and William Schero, and Louis Dray.

Gypsum in Canada

Canada continued to be an important exporter of crude gypsum during 1931 although the exports of gypsum products declined somewhat as compared with those of the previous year, according to a review of the gypsum industry by the Dominion Department of Mines, Ottawa. The industry as a whole is in good condition and is looking to the future with confidence, the review states.

Important developments were recorded during the year. Gypsum, Lime and Alabastine, Canada, Limited, added a number of new commodities to its output, one of which is a gypsum wallboard with a surface finished in reproduction of the graining of wood, and another a precast acoustic tile. The Canadian Gypsum Company, Limited, placed in operation its newly erected wallboard plant at Hillsborough, New Brunswick, and opened a new plant at Hagersville, Ontario. The opening of the latter plant is of considerable interest to the gypsum industry, as it marks the first time in Canada that complete calcination has been carried out in a continuous rotary calcining kiln.

Because of its many desirable properties, the use of gypsum in the building trades is making rapid progress, but owing to its close dependence on constructional activities, any decrease in building contracts is almost immediately reflected on the gypsum output. As the larger portion of the Canadian production is shipped to the United States in the crude state for manufacture into gypsum products, industrial conditions in that country also have a bearing on the Canadian industry.

Nova Scotia is the largest producer of gypsum in Canada, followed by New Brunswick, Ontario, Manitoba, and British Columbia. The materials produced are the hydrous calcium sulphate, commonly known as gypsum, the partly de-hydrated material, known as Plaster of Paris, or wall plaster, and the anhydrous calcium sulphate, known as anhydrite. Gypsum is marketed in various forms, and an increasing proportion of the calcined material each year enters into the manufacture of wallboard, gypsum blocks, insulating material, acoustic plaster, etc.

Canada is in an excellent position as regards its supplies of gypsum. There are many localities in the Maritime provinces where deposits of good grade can still be found and extensive deposits are also known to occur in northern Ontario, Alberta, and British Columbia. In the meantime the sources at present being utilized are by no means nearing exhaustion.

Parker Corning Re-Elected

ALBANY, N. Y., November 10, 1932—Parker Corning, president of the Albany Felt Company, was re-elected to Congress at the recent election by an overwhelming majority and will again represent the 28th district. He has been prominent in Democratic circles for many years and has built up a large following through his efforts as a Congressman. He has already served several terms from this district and was elected by a large plurality on each occasion.

Carthage Mill To Resume

[FROM OUR REGULAR CORRESPONDENT]

CARTHAGE, N. Y., November 10, 1932—Promoters of the newly organized Carthage Papermakers Inc., plan to start operations next week in the leased plant of the Carthage Pulp and Board Company, which has been idle for several months. A number of the former employees have been working steadily for the past few weeks overhauling equipment and placing everything in readiness for the start of operations. The small machine is all that will be operated for the present and officials announced that it is in perfect condition for an output which will average about sixteen tons daily. The roof of the plant has also been repaired and other necessary improvements made.

Officials announced this week that operations must begin immediately if the mill is to reopen at all and prominent business men have been doing their utmost to promote the sale of stock for operating capital. It was learned that orders are coming in rapidly and indications are that the mill will operate steadily for some time. A number of shares of stock in the new concern are still available, despite the fact that citizens have been responding fairly well to the campaign now under way to secure stockholders. The management of the new concern is under Bert Thomas, who will be assisted by Charles Miller and William Cassidy as superintendents. Over 200 shares of stock in the new company have already been taken over by prominent residents and it is expected that the desired number of subscribers will be obtained after operations have commenced.

To Manage Munising Paper Co. Sales

The Munising Paper Company, manufacturers of Caslon Bond, announces the appointment of H. J. Miner, for thirty-seven years connected with the Hollingsworth & Whitney Paper Company as general sales manager of the Munising organization. Sales headquarters of the Munising Company have been moved from the mill at Munising, Mich., to the Wrigley Building, Chicago, where Mr. Miner has taken up his new duties.

Mr. Miner is one of the best known figures in the paper industry. For the past twenty-two years he has been Chicago manager for the Hollingsworth & Whitney organization. He resigned in March, 1931, to retire from active business. His retirement didn't "take". "It gets in the blood and stays there," said Mr. Miner in discussing his return to the industry. "The opportunity presented by Caslon Bond and the other Munising products was too tempting. I see a great future for this line, and I am glad to be back in harness and identified with it."

Mr. Miner's new connection is the second of his long career, which started with the eastern mill in 1894. His son, Gerald F. Miner, is a salesman for the D. W. Dietrich Paper Company of Chicago. Mr. Miner's home is at Evanston, Ill.

Paper Folding Patent Awarded

CARTHAGE, N. Y., November 10, 1932—A patent has been awarded to Fred L. Stanton, of this village, on his invention of a paper folding machine which embodies a number of patentable qualities. The invention combines a means for drawing a wide web of paper into the machine, means for slitting the web into a plurality of narrow strips, and other features. Patent rights have been assigned to the National Paper Products Company.

A wall paper design perfected by Max Arnold, of Glens Falls, has also been awarded a patent and rights have been turned over to the Imperial Paper and Color Corporation which plans to use it for manufacturing purposes.

Drier Felt Seams

By H. N. Hill[1]

The method of stitching or joining drier felts varies with different mills, but drier felt seams can be divided into the following classes: Boot-leg Seam, Herring-bone Seam, Patented Clipper Seam, Riveted Seam, Flat Sewed Seam, Glued Seam and The Endless Felt.

For those not versed with the work, it is no doubt best to explain the usual method of putting a drier felt on a paper machine.

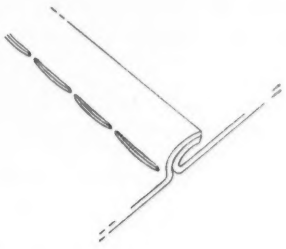

FIG. 1
(Outside)

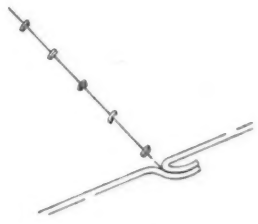

FIG. 2
(Inside)

FIG. 3
(Herring-bone)

1. The old felt is split across the machine, (usually at the extreme end of the machine) and the new felt joined by a few stitches to the old felt.
2. The machine is then started up, and the new felt is drawn on as the old felt is run off.
3. The new felt is then brought together and joined in one of the following ways:

Boot-leg Seams Fig. 1 and 2

This is usually accomplished by laying the two edges of the felt together and sewing them about two inches back from the edge (see illustrations 1 and 2). Sometimes a double, and sometimes a single stitch is used,—and it is done by hand, or with a sewing machine (especially designed for the purpose) which travels on a rack across the felt.

FIG. 4
(Flat-sewed)

The boot-leg seam is the simplest type of drier felt seam used. There are two kinds of boot-leg steam—the *"inside"* and the *"outside"* seam. (See Figs. 1 and 2.)

The *"outside"* seam is generally used, because it is easier to install. The edges of the felt in this case are on the outside of the felt and come in contact with the paper. Where there is any danger of seams marking the paper, an *"inside"* seam is used, which allows the laps to run on the "inside" of the felt (the paper coming in contact with the outside of the felt). This seam presents more difficulties to put in, because it must be sewn from the "inside" of the felt.

Herring-bone Seam Fig. 3

With this type of seam the felt is butted together flush and jointed with a herring-bone seam. (See Fig. 3.) This method is used where seams have a tendency to "mark" certain grades of paper.

It does away with the "bulk" of the boot-leg seam which is always present, even if it is made as an "inside" seam. Sometimes the herring-bone seam is backed up on the inside with a strip of old felt or canvas to give it better support.

Flat Sewed Seam Fig. 4

The flat sewed seam is made by lapping one edge of the felt over the other about 8 inches to 12 inches and sewing the felt. (See Fig. 4.) This type of seam is used very successfully on news machines running at high speeds, —on wrapping and other grades of paper.

FIG. 6
(Rivet)

FIG. 5
(Riveted, Single)

Riveted Seams Figs. 5, 6, 7

The simplest type of this seam, is to lap the felt about 5 inches and put in three rows of perfectly smooth, flat-headed, self-clinching rivets, about 2 inches apart, and 1½ inches between centers across the felt. The rivets should be staggered, and the outer row as near the edge of the felt as possible. (See Fig. 5.)

The rivets should be so driven that the self-clinching prongs spread parallel with the width of the felt. A light hammer should be used, and the rivets "tapped" in gently, otherwise they will cut through the felt. If any rivets do not pass properly through the felt, they should be "immediately withdrawn."

Rivets with absolutely smooth heads are recommended,

[1] Asten-Hill Mfg. Co., Scott's Lane (East Falls), Philadelphia, Pa.

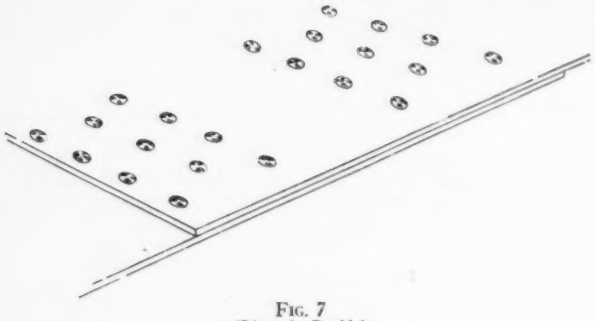

FIG. 7
(Riveted, Double)

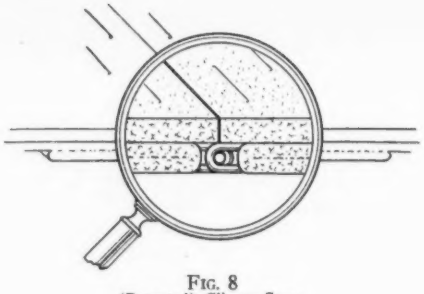

FIG. 8
(Patented) Clipper Seam

(See Fig. 6), as they have less tendency to mark or form a trap for corrosion.

For wide machines running at high speeds the following type of riveted seam is recommended. (See Fig. 7.)

Lap the felt about 15 inches and put in two rows of rivets, towards each edge, as illustrated. This leaves a space in the middle between the two rows of rivets where additional rivets can be put in later if the seam starts to loosen-up (which might possibly happen later, particularly in the center of the felt).

Glued Seam

Some mills are using a glued seam by bringing the felt together and gluing it. This is done by clamping it between thick pieces of board until the glue is set. The glued seam has been used to a limited extent; therefore, it is difficult to give an opinion regarding its effectiveness.

"Patented" Clipper Seam Fig. 8

The manufacturer supplies the felt having at each end *a belt laced with Clipper Hooks.* This type of seam is joined by merely inserting a wire through the clipper hooks. As the belt containing the hooks is on the "inside" of the felt, it gives practically an endless surface on the side that comes next to the paper. (See Fig. 8.) The belts are joined to the felt by staples,—both the staples and the clipper hooks being rust-proof. Experience has shown that this seam lasts the life of the felt.

Felts are supplied by the manufacturers equipped in this manner and with a "skirt" on one end, so that this "skirt" can be joined to the old felt when putting the new felt on the machine. This prevents any possibility of damaging the clipper hooks while the felt is being installed.

Endless Felts

These are made by weaving two ends of the felt together by hand, which really makes an endless belt. Such belts are used for fine paper, where the slightest seam-mark is objectionable.

A bulletin fully describing the (Patented) Clipper Seam may be obtained from the Asten-Hill Manufacturing Company, Scott's Lane (East Falls), Philadelphia, Pa.

Automatic Compensator for Bag Machines

The engineering staff of the Smith & Winchester Manufacturing Company, South Windham, Conn., working with the research division of the General Electric Company has, within the past year, perfected a patented automatic compensator for its paper bag machines. It is claimed, this patented device makes it possible to print rolls of paper on two or three color rotary presses, rewind—send them through the bag machines and save the extra handling of the tubes. Length of tubes do not vary and higher speeds are consistently maintained. Speeds of 500 feet of paper per minute are easily handled.

Before this development, the speed of large paper rolls had to be varied in order to get the cut off right. Necessary adjustments caused variations in the slack or tension of the paper going into each tube with the result that multi-wall bags were often turned out with walls that did not form a complete unit, and their strength was materially impaired. The new S & W compensator adjusts the cut-off knives directly—keeps the paper speed constant and removes all danger of weak bags.

The method of operation is as follows: a "Key" mark is printed between each bag length when the rolls are printed. An "electric eye" is placed where these key marks can be easily and brightly lighted to reflect into the eye. If the reflected light varies, either before or after the normal position of correct register, then an electric impulse is set up. Amplified through relays it operates a special motor which speeds up or slows down the differential, and drives the cut-off knife. Advanced or retarded automatically as required the cut off is always kept at the "Key" mark so the tubes will all be the same length and the printing always in the proper location on the tube. There are only two corrections necessary: one, a constant to adjust for variation in printing due to a shrinkage or stretch of the paper because of atmospheric conditions; the other, the quick change for large individual variations.

The combination of electric eye and compensator in connection with the cut-off control has been developed only after long and extensive study and experiment. This machine is being used today on the tubes used for valve bags, and developments are being worked out for other size machines at the present time.

Installations are now running in several converting plants—and have given entirely satisfactory results for more than a year. The device is used on machines turning out tubes for valve bags and is adaptable to other size machines. More detailed information may be secured about this latest development by writing The Smith & Winchester Manufacturing Company, South Windham, Conn.

Bids on Government Paper

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., November 16, 1932—The Government Printing Office has received the following bids for 2,850 pounds of offset paper: Perkins-Goodwin Company, at 4.75 cents per pound; Whitaker Paper Company, 6.95 cents and 6.2 cents; American Writing Paper Company, 7.5 cents; Barton, Duer & Koch Paper Company, 5.5 cents; Aetna Paper Company, 5.63 cents; Old Dominion Paper Company, 5.66 cents; R. P. Andrews Paper Company, 5.4 cents, 7.2 cents, and 5.7 cents; Mathers-Lamm Paper Company, 5.5 cents; Reese & Reese, Inc., 5.47 cents; and E. H. Walker Supply Company, 5.65 cents less 2 per cent.

IMPORTS OF PAPER AND PAPER STOCK

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING NOVEMBER 12, 1932

CIGARETTE PAPER

Champagne Paper Corp., Pipestone County, Havre, 176 cs.; ——, Rex, Genoa, 22 cs.; De Manduit Paper Corp., Paris, Havre, 79 cs.; Champagne Paper Corp., Paris, Havre, 126 cs.; American Tobacco Co., Paris, Havre, 347 cs.; Liggett & Myers Tobacco Co., Paris, Havre, 76 cs.

WALL PAPER

Globe Shipping Co., Deutschland, Hamburg, 1 bl.; F. Blank & Co., Deutschland, Hamburg, 4 cs.

NEWS PRINT

Perkins Goodwin & Co., Berlin, Bremen, 65 rolls; ——, United States, Oslo, 12 rolls; Perkins Goodwin & Co., Deutschland, Hamburg, 429 rolls; Baldwin Paper Co., Deutschland, Hamburg, 110 rolls; Parsons & Whittemore, Inc., Deutschland, Hamburg, 179 rolls.

PRINTING PAPER

C. Steiner, Berlin, Bremen, 16 cs.; Japan Paper Co., Majestic, Southampton, 3 cs.; Intl. Forwarding Co., Bremen, Bremen, 1 cs.; E. Dietzgen & Co., Black Falcon, Rotterdam, 25 cs.; Phoenix Shipping Co., Deutschland, Hamburg, 2 cs.

WRAPPING PAPER

Favor Ruhl & Co., Livenza, Genoa, 2 cs.; ——, Conte Grande, Genoa, 30 bls.; Van Oppen & Co., Pr. Van Buren, Genoa, 11 cs.

DRAWING PAPER

Favor Ruhl & Co., Paris, Havre, 2 cs.; Artists Brush & Color Co., Amer. Banker, London, 1 cs.; H. Reeve Angel & Co., Inc., Amer. Banker, London, 8 cs.

FILTER PAPER

H. Reeve Angel & Co., Inc., Amer. Banker, London, 4 cs.

COLORED PAPER

D. C. Andrews & Co., Bremen, Bremen, 1 cs.; F. Murray Hill Co., Deutschland, Hamburg, 3 cs.

COVER PAPER

Intl. Forwarding Co., Deutschland, Hamburg, 10 cs.

BARYTA COATED PAPER

Globe Shipping Co., Berlin, Bremen, 50 cs.; Globe Shipping Co., Bremen, Bremen, 11 cs.

METAL COATED PAPER

Globe Shipping Co., Berlin, Bremen, 31 cs.; K. Pauli Co., Deutschland, Hamburg, 21 cs.

SURFACE COATED PAPER

Gevaert Co. of America, Black Hawk, Antwerp, 9 cs.; ——, Deutschland, Hamburg, 6 cs.

PHOTO PAPER

American Express Co., Bremen, Bremen, 16 cs.

LITHO PAPER

J. H. & G. B. Siebold, Inc., Potter, Canton, 5 cs.

DECALCOMANIA PAPER

E. Hennigson Co., Berlin, Bremen, 1 cs.; B. F. Drakenfeld & Co., Scythia, Liverpool, 8 cs. (duplex); L. A. Consmiller, Bremen, Bremen, 12 cs.; Sellers Transportation Co., Bremen, Bremen, 14 cs.

TRANSFER PAPER

F. L. Kramer & Co., Berlin, Bremen, 45 cs.; Atlantic Forwarding Co., Deutschland, Hamburg, 11 cs.

PARCHMENT PAPER

Dingelstedt & Co., Berlin, Bremen, 5 cs.; ——, Berlin, Bremen, 4 cs.

WRITING PAPER

MacHattie & Greene, Inc., Paris, Havre, 1 cs.

ENVELOPES

Beckhard Simfred Co., Berlin, Bremen, 20 cs.

STENCIL PAPER

Frankel Carbon & Ribbon Manfg. Co., Majestic, Southampton, 2 cs.

GUMMED PAPER

Heemsoth Basse & Co., Bremen, Bremen, 8 cs.

RAW CARD

F. C. Strype, Berlin, Bremen, 25 cs.

CARD BOARD

Coty Processing Co., Paris, Havre, 34 cs.

MISCELLANEOUS PAPER

Henschel Naeve & Co., Berlin, Bremen, 3 cs.; Keller Dorian Paper Co., Paris, Havre, 4 cs.; ——, Bremen, Bremen, 27 cs.; Parsons & Whittemore, Inc., American Banker, London, 1 cs.; Japan Paper Co., G. Maersk, Kobe, 11 cs.; Wedeman Godknecht & Lally, Deutschland, Hamburg, 8 cs.

RAGS, BAGGINGS, ETC.

G. A. Henshaw & Sons, Marengo, Hull, 112 bls. paper stock; C. Nelson, Marengo, Hull, 23 bls. new cuttings; A. Mallin, Morro Castle, Havana, 22 bls. rags; ——, Pr. Roosevelt, Hamburg, 172 bls. rags; Hicks Costarino & Co., Pipestone County, Dunkirk, 36 bls. rags; Hicks Costarino & Co., Pipestone County, Havre, 32 bls. rags; Bank of N. Y. Trust Co., Hoxie, Londonderry, 124 bls. rags; ——, Scythia, Liverpool, 32 bls. flax waste; E. J. Keller Co., Inc., G. Maersk, ——, 55 bls. rags; Chase National Bank, Deutschland, Hamburg, 33 bls. rags.

GLUE STOCK, ETC.

——, Berlin, Bremen, 420 bags hide glue; ——, Deutschland, Hamburg, 450 bags hide glue; ——, Deutschland, Hamburg, 225 bags bone glue.

OLD ROPE

A. S. Wilson, Inc., Italian Prince, London, 68 coils; Banco Coml. Italiane Trust Co., Deutschland, Hamburg, 46 coils.

CASEIN

D. C. Andrews & Co., Deutschland, Hamburg, 60 bags.

WOODPULP

Irving Trust Co., United States, Oslo, 500 bls. chemical pulp, 101 tons; Atterbury Bros., Inc., United States, Oslo, 400 bls. sulphite, 50 tons; E. M. Sergeant & Co., United

States, Oslo, 300 bls. chemical pulp, 50 tons; Castle & Overton, Inc., Deutschland, Hamburg, 1140 bls. wood pulp, 208 tons; Gottesman & Co., Inc., Cubano, Norway, 5000 bls. wood pulp.

PULPWOOD

Amtorg Trading Corp., (Albany) Rigel, Archangel 2794 cords.

WOOD PULP BOARDS

——, Pr. Roosevelt, Hamburg, 183 bls.; ——, New Britain, Rotterdam, 143 bls.

WOOD FLOUR

The Burnet Co., Black Falcon, Rotterdam, 500 bls., 25,000 kilos.

PHILADELPHIA IMPORTS

WEEK ENDING NOVEMBER 12, 1932

Castle & Overton, Inc., Pipestone County, Dunkirk, 55 bls. rags; E. J. Keller Co., Inc., Pipestone County, ——, 128 bls. rags; Keene & Arkus, Pipestone County, Dunkirk, 201 bls. rags; Castle & Overton, Inc., Pipestone County, Havre, 86 bls. rags; O. G. Hempstead & Son, Pipestone County, Havre, 2 cs. writing paper; Phila. National Bank, Livenza, Genoa, 6 cs., 1 ble. paper; F. Weber & Co., Livenza, Genoa, 9 cs. paper; Chase National Bank, G. Maersk, Kobe, 90 bls. rags; Union Waste Co., G. Maersk, Kobe, 50 bls. rags; C. Moore Co., Potter, Manila, 86 coils rope.

BALTIMORE IMPORTS

WEEK ENDING NOVEMBER 12, 1932

Gottesman & Co., Inc., Cubano, Norway, 600 bls. wood pulp.

NORFOLK IMPORTS

WEEK ENDING NOVEMBER 12, 1932

Manufacturers Trust Co., G. Maersk, Shanghai, 412 bls. bagging; 1st Natl. Bank of Boston, G. Maersk, Shanghai, 536 bls. bagging; Carolina Bagging Co., G. Maersk, Kobe, 1200 bls. bagging; Chase National Bank, G. Maersk, Kobe, 400 bls. bagging.

SAVANNAH IMPORTS

WEEK ENDING NOVEMBER 12, 1932

1st Natl. Bank of Boston, G. Maersk, Shanghai, 500 bls. bagging; E. J. Keller Co., Inc., G. Maersk, ——, 800 bls. bagging; E. Butterworth & Co., Inc., G. Maersk, Kobe, 600 bls. wool pouches.

BOSTON IMPORTS

WEEK ENDING NOVEMBER 12, 1932

——, Pipestone County, Havre, 31 bls. rags; E. Butterworth & Co., Inc., Hoxie, Bristol, 25 bls. paper stock; Atkinson Haserick & Co., Pr. Van Buren, Genoa, 7 cs. paper; G. F. Malcolm & Co., Scythia, Liverpool, 4 cs. tissue paper; E. J. Keller Co., Inc., Black Hawk, ——, 90 bls. bagging.

PORTLAND IMPORTS

WEEK ENDING NOVEMBER 12, 1932

Gottesman & Co., Inc., Bockenheim, Sweden, 6225 bls. wood pulp.

New Air Preheater Bulletin

The Air Preheater Corporation, of 40 East 34th street, New York, has just issued an illustrated booklet, entitled "Something to Think About Before Buying the Next Boiler," which deals with the boiler problem in what may seem a radical manner, but the practice advocated has proved highly economical in three years of service in some of the best plants in America.

Register Studies in Offset Lithography

The results of experimental printings made to find causes of misregister of lithographic prints were reported by the Bureau of Standards in its September Journal of Research. The work was initiated at the request of the Lithographic Technical Foundation because the industry suffers an annual loss, estimated to be 25 per cent of theoretical production, due to lack of knowledge concerning the characteristics of paper required for optimum results in printing on the modern high-speed offset press. Preliminary investigation, which included a survey of thirty-one commercial lithographic plants, revealed that the principal difficulty encountered in which paper was involved was misregister of the successive color prints. Hence the work has been confined so far to a study of the factors influencing the register of prints.

A series of experimental printings were made in a commercial lithographic plant under routine operating conditions for the purpose of determining what factors influence the closeness of register, and further experimental printings were made to study the influence of the important factors on register. The papers printed were specially prepared by cooperating paper manufacturers and the history of manufacture was supplemented by laboratory analyses to obtain complete knowledge of the characteristics of the papers for correlation with the results of the printing tests. Information relative to the influence of paper characteristics was obtained in printing the various papers on one press with all other variables minimized, and printing representative samples on a press with controlled variations of such factors as pressure, water, and ink gave data on the effects of press variables.

The results indicate that paper characteristics are important in respect to obtaining register of prints. The paper that had received the least drastic mechanical treatment in manufacture gave most satisfactory results and papers that had received the most drastic treatment poorest register, indicating the desirability of manufacturing offset papers with the least beating and jordanning essential for satisfactory strength and finish. Internal sizing was desirable, but the amount used, within normal limits was not important. Other factors were also important. A thorough conditioning of paper to equilibrium before printing the first color is essential and a reasonable seasoning period between printings is desirable. Plates should be standardized in respect to thickness and register marks should be accurately placed. Increase in the amount of pressure used in printing tended to shorten the resultant prints slightly. The amount of water used did not appear important as doubling the normal amount had no serious effect, but the extent of the area covered with ink was a factor in respect to register.

The dimensional changes of the printing papers with changes in applied tension and in moisture content are most important, and a further study of this and various conditioning factors is in progress at the Bureau.

Pacific Strawboard Co. Gets Big Order

KELSO, Wash., November 12, 1932—Pacific Straw and Paperboard company, with plants at Longview, Wash., and Portland, Ore., has received its second large order of 1100 tons of paperboard from the American Tobacco Co. The shipment will be transported to Shanghai, China, on board the steamer Maunawill operated by the State Steamship Line.

Paperboard is used by American Tobacco Co. to ship its product from Oriental ports.

They...

. . . ask so little—and need so much

Just to be
Your Unseen Guests
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GOLDEN RULE

DECEMBER 11TH TO 18TH, 1932

THE plan for Golden Rule Week this year enables even those with limited incomes to welcome these unseen guests who ask so piteously for a place at your table. At the least possible sacrifice you now can do your part to help them weather what many believe will be the crucial year of the depression.

A committee of leading household economists has prepared a series of menus and recipes to be used each day during Golden Rule Week. Tempting and appetizing, they will provide a family of five with adequate sustenance for an entire week at a maximum cost of $8.88. The saving from your usual table budget will make it easy to follow the dictates of your heart toward alleviating the suffering of the less fortunate.

A 48-page illustrated booklet containing the 21 menus, with tested recipes and valuable supplementary information will be sent free of charge. Just sign and mail the coupon—TODAY.

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Please send me illustrated booklet containing 21 Golden Rule Economy Menus, with tested recipes. I understand that there is to be no charge for this.

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7

New York Market Review

Office of the PAPER TRADE JOURNAL.
Wednesday, November 16, 1932.

Trading in the local paper market was only moderately active during the past week. However, now that the presidential election has been decided, it is anticipated in some quarters that demand for the various standard grades of paper will become more lively. Sales forces of the leading paper organizations are still conducting an active campaign for orders and continue optimistic.

Great interest is being taken in local news print circles in the efforts of the leading Canadian manufacturers to stabilize the industry through mergers or consolidations. Production of news print paper is still being maintained in sufficient volume throughout the United States and Canada to take care of current requirements. The price situation continues unsatisfactory.

The paper board market is displaying a fairly strong undertone. Demand for the various grades of box board is active. Prices are unchanged. Some improvement was noticed in the fine paper market. Tissues are moving in seasonal volume. The coarse paper market is irregular and prices are weaker.

Mechanical Pulp

Conditions in the ground wood market are fairly satisfactory. Demand for both domestic and imported mechanical pulp is mainly along routine lines. Accumulations are not heavy, however, and the industry is considered on a sound statistical basis. Prices are holding to schedule.

Chemical Pulp

Paper mill interest in the chemical pulp market is well maintained. Various grades of domestic and imported chemical pulp are in fairly persistent request. Prices are generally holding to previously quoted levels, despite keen competition for desirable orders.

Old Rope and Bagging

The position of the old rope market continues unchanged. Demand for both foreign and domestic old manila rope is light at present. Small mixed rope continues quiet. The bagging market is rather dull. Scrap bagging and gunny bagging are moving slowly. Roofing bagging is fairly steady.

Rags

The domestic rag market is practically marking time. Cotton cuttings are only arousing a moderate amount of interest from the paper mills. Roofing grades, however, are in seasonal request. The imported rag market is still affected by foreign exchange fluctuations. Prices are strictly nominal.

Waste Paper

Board mill demand for the lower grades of paper stock is fairly heavy. Strictly folded news, over-issue and No. 1 mixed paper continue to display strength. Offerings are limited and prices are steady to firm. The higher grades of waste paper are also holding up very well. Book stock in particular is more buoyant.

Twine

Most of the business transacted in the local twine market during the past week was along routine lines. Demand for the various grades is fairly satisfactory. Supplies should continue to move into consumption in good volume until the end of the year at least. No radical price changes have been reported.

Work-Sharing Plan Proposed

A committee representing the entire paper-board industry, including mills, container plants and folding box plants, is conducting an inquiry to develop a work-sharing plan for the industry. This committee was appointed at a meeting of the Paperboard Industries Association last month, and is headed by G. G. Otto, of the Alton Box Board and Paper Company, of Alton, Ill., as chairman.

Mr. Otto said that the committee probably would begin its work by issuing a questionnaire for the purpose of developing basic facts upon which could be worked out some plan along the lines suggested by the Co-ordination Committee of the Share-the-Work-Movement, of which Walter C. Teagle is chairman.

"I really feel," Mr. Otto said, "that it would be an excellent thing for our industry as a whole for every man in the industry to get behind this proposition and give it thorough support."

Thomas R. Fort, Jr., Dead

It is with deep regret that the industry learned of the passing of Thomas R. Fort, Jr., owner of the Thomas W. Price Paper Company, 503 Ludlow street, Philadelphia, a business he maintained for more than fifty years. Mr. Fort, who was 73, lived at 60 West Upsal street. Mr. Fort, on account of illness, was not able to return from his summer home in Ocean City, N. J., this Fall. He was an active member of Old Select Council, a trustee of the First Methodist Episcopal Church of Germantown, and was for many years a member of the Board of Home Missions and the Church Extension Society. He was also a member of Harmony Masonic Lodge, No. 52. Funeral services were held Monday, November 14, at 2 p. m. from 1924 Arch street, Philadelphia. He is survived by his wife, a son Norman, and two grandchildren.

Reforestation Plans

[FROM OUR REGULAR CORRESPONDENT]

OGDENSBURG, N. Y., November 10, 1932—Work will be started early in the spring on the reforestation of the land recently acquired by St. Lawrence University in Jefferson County and the project will be under supervision of F. M. Callward, head of the forestry department. The board of trustees has approved purchase of the tract of 200 acres and it will be used for demonstration purposes. Acquiring the land was made possible through the fund established by Floyd Carlisle in 1929 which provides for an annuity of $20,000 for five years in carrying on reforestation work.

MORE REPEAT ORDERS

Another plant of one of the leading manufacturers of straw products is being equipped with a 5′ x 12′ Marcy Open End Rod Mill, the fifth Marcy Mill for this company. Repeat orders mean proof of superior performance, of decreased beating costs and increased profits.

Specific inquiries are invited.

MARCY OPEN-END ROD MILLS

for Perfect Beating of Every Type of Stock

1. Positively reduce power costs.
2. Absolute control under all conditions.
3. Maximum preservation of initial strength.
4. Preserve full fibre length.
5. Positive separation of fibre bundles.
6. Positively no unbeaten stock bypassed.

Send us a sample of your untreated pulp and we will send you proof.

PAPER MILL DIVISION

The MINE and SMELTER SUPPLY COMPANY

Denver, Colorado

Dietz Towel Interfolding Machines
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TOILET PAPER MACHINES

For making Toilet and Paper Towel Rolls
(With or without perforations)

AUTOMATIC TUBE MACHINES

For Making Wire-Stitched Toilet Tubes

Sanitary Crepe Towel Machines, Roll Tighteners, Slitting and Rewinding Machines, Drop Roll Slitting Machines, Photo Mount Beveling Machines, Rotary Card Cutting Machines, etc.
Correspondence solicited

DIETZ MACHINE WORKS

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Cor. Waterloo St. (between Front & Second Sts.)
and below Diamond St.
Phila., Penna., U. S. A.

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DRYER FELTS
TRIUNE and MULTIPLE PLY**

Serve every Felt Purpose in an efficient and satisfactory way.

60″ to 288″

ENGLISH or BAKER WOVEN

Made in three, four, five and six ply—60″ to 214″ wide.

FITCHBURG DUCK MILLS

FITCHBURG, MASS.

For 88 Years Makers of Fine Faced Felts

For Papermakers

THE CLARK-AIKEN CO.

Successors to
H. C. Clark & Son Machine Co.

PAPER MILL MACHINERY

LEE, MASS.

Revolving Paper Cutters—Rag Cutters—Cylinder Paper Machines—Washing and Beating Engines—Chilled Iron and Paper Calenders—Fan and Stuff Pumps—Engine Roll Bars and Bed Plates—
Cylinder Molds—Marshall Drives—Slitters and Rewinders—Reels—Dryers with Improved Packing Boxes—Wet Machines—Gun Metal and Rubber Rolls—Rolls Reground.

**Your Card in This Space
Will Bring Results**

Miscellaneous Markets

Office of the PAPER TRADE JOURNAL,
Wednesday, November 16, 1932.

BLANC FIXE.—The position of the blanc fixe market is practically unchanged. Prices are steady. The pulp is still quoted at from $42.50 to $45.00 per ton, in bulk; while the powder is selling at from 3½ cents to 3¾ cents per pound, in barrels, at works.

BLEACHING POWDER.—Steadiness prevails in the bleaching powder market. The contract movement is well up to average. Prices are holding to previously quoted levels. Bleaching powder is selling at from $1.75 to $2.00 per 100 pounds, in drums, at works.

CASEIN.—The casein market continues firm. Domestic standard ground is quoted at 7 cents and finely ground at 8 cents per pound. Argentine standard ground is still selling at 8 cents and finely ground at 8½ cents per pound, all in bags, car lot quantities.

CAUSTIC SODA.—Demand for caustic soda is fairly persistent. Contract shipments are moving in good volume. Solid caustic soda is quoted at from $2.50 to $2.55; while the flake and the ground are selling at from $2.90 to $2.95 per 100 pounds, in large drums, at works.

CHINA CLAY.—The china clay market is displaying a fairly strong undertone. Prices are generally holding to schedule. Foreign china clay is quoted at from $10 to $15 per ton, ship side; while domestic paper making clay is selling at from $5 to $12 per ton, at mine.

CHLORINE.—Conditions in the chlorine market are fairly satisfactory. Some contracts are being booked for the coming year. Prices remain unchanged. Chlorine is quoted at $1.55 per 100 pounds, in tanks, or multi-unit cars, in ton lots, or over, at works.

ROSIN.—The rosin market is slightly firmer. The grades of gum rosin used in the paper mills are now quoted at from $3.80 to $3.90 per 280 pounds, in barrels, at works; while wood rosin is selling at $2.80 per 280 pounds, in barrels, at southern shipping points.

SALT CAKE.—No radical changes were reported in the salt cake market. Prices are steady. Salt cake is quoted at from $15 to $16; chrome salt cake at from $12 to $13 per ton, in bulk, at works; while imported salt cake is selling at from $14 to $15 per ton, ship side.

SODA ASH.—The soda ash market is marking time, awaiting quotation announcements. The contract movement is seasonal. Quotations on soda ash, in car lots, at works, per 100 pounds, are as follows: in bulk, $1.00; in bags, $1.25; and in barrels, $1.38.

STARCH.—Paper mill demand for starch is moderately active. Contract shipments are moving with regularity. Prices remain unchanged. Special paper making starch is quoted at $2.29 per 100 pounds, in bags; and at $2.56 per 100 pounds, in barrels, at works.

SULPHATE OF ALUMINA.—Trading in the sulphate of alumina market is fairly brisk. Prices are holding to schedule. Commercial grades are quoted at from $1.25 to $1.40; while iron free is selling at from $1.90 to $2.05 per 100 pounds, in barrels, at works.

SULPHUR.—The sulphur market continues steady. Sulphur is quoted at $18 per long ton, on orders of 1,000 tons, or over, on yearly contracts; and at $20 per ton on any smaller quantity over that period. On spot and near by car loads, the quotation is $21 per ton.

TALC.—Most of the business transacted in the talc market during the week was along routine lines. Domestic talc is still quoted at from $16 to $18 per ton, in bulk, at mine; while imported talc is selling at from $18 to $22 per ton, in bags, ship side.

Market Quotations

Paper

(F. o. b. Mill)

Ledgers	6.50	@	38.00
Bonds	4.50	@	53.25
Index	6.00	@	12.00
Writings—			
Extra Superfine	6.50	@	15.00
Superfine	6.25	@	14.75
Tub sized	4.50	@	7.00
Engine sized	4.00	@	5.00
Book, Cased—			
S. & S. C.	5.25	@	—
M. F.	3.75	@	5.00
Coated and Enamel	6.25	@	9.75
Lithograph	6.75	@	11.25
Tissues—Per Ream—			
White No. 1	.50	@	.70
Anti-Tarnish M. G. only	.65	@	.70
Colored	.70	@	.90
White No. 2	.55	@	.60
Kraft	.65	@	.70
Manila	.55	@	.60
Manila—			
No. 1 Jute	9.00	@	9.25
No. 2 Jute	7.75	@	8.50
No. 1 Wood	4.00	@	5.25
No. 2 Wood	3.50	@	4.00
Butchers	3.37½	@	—
Fibre Papers—			
No. 1 Fibre	4.25	@	5.50
No. 2 Fibre	4.00	@	4.75
Common Bogus	1.50	@	3.00
Screenings	2.00	@	3.00
Card Middies	4.00	@	5.00
Glassine—			
Bleached, basis 25 lbs., No. 1	.09¼	@	—
No. 2	.11¼	@	—
Bleached, basis 20 lbs.	.11¼	@	—

(Delivered New York)

News, per ton—			
Roll, contract	45.00	@	—
Rolls, spot	45.00	@	—
Sheets	50.00	@	—
Side Runs	30.00	@	35.00
Kraft—			
No. 1 Domestic	4.75	@	6.00
No. 2 Domestic	2.50	@	2.75
Southern	2.25	@	2.50
Imported	2.75	@	3.50
Boards—per ton—			
News	27.50	@	30.00
Straw	30.00	@	32.50
Chip	25.00	@	27.50
Binders' Boards	62.00	@	70.00
Kraft Liner	37.50	@	40.00
Standard 85 Test Liner	27.50	@	—
Sgl. Mla. Ll. Chip	37.50	@	40.00

(F. o. b. Mill)

Wood Pulp Boards	70.00	@	80.00

Mechanical Pulp

(On Dock)

No. 1 Imported—			
Moist	17.00	@	20.00
Dry	17.00	@	20.00

(F. o. b. Mill)

No. 1 Domestic	16.00	@	24.00

Chemical Pulp

(On Dock, Atlantic Ports)

Sulphite (Imported)—			
Bleached	1.90	@	2.25
Easy Bleaching	1.60	@	1.75
No. 1 strong unbleached	1.40	@	1.60
Mitscherlich unbleached	1.55	@	1.75
No. 2 strong unbleached	1.25	@	1.35
No. 1 Kraft	1.40	@	1.65
No. 2 Kraft	1.30	@	1.40
Sulphate—			
Bleached	1.85	@	2.15

(F. o. b. Pulp Mill)

Sulphite (Domestic and Canadian)—			
Bleached	1.75	@	3.75
Easy Bleaching	1.75	@	1.90
News	1.50	@	1.65
Mitscherlich unbleached	2.25	@	2.55
Kraft (Domestic)	1.50	@	2.75

(Delivered Paper Mills)

Soda Bleached	2.25	@	—

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—			
New White ,No. 1.	4.00	@	4.25
New White, No. 2.	3.00	@	3.25
Silesias No. 1	3.75	@	4.00
New Unbleached	5.50	@	6.00
New Soft Blacks	2.75	@	3.00
Blue Overall	3.00	@	3.50
Fancy	1.50	@	1.75
Washables	1.15	@	1.40
Mixed Khaki Cuttings	2.50	@	3.00
Pink Corset Cuttings	2.75	@	3.25
O. D. Khaki Cuttings	3.00	@	3.25
Men's Corduroy	1.00	@	1.25
New Mixed Blacks	2.25	@	2.50

Old Rags

White, No. 1—			
Repacked	3.00	@	3.50
Miscellaneous	2.00	@	2.25
White, No. 2—			
Repacked	1.75	@	2.00
Miscellaneous	1.50	@	1.75
Thirds and Blues—			
Repacked	1.50	@	1.75
Miscellaneous	1.00	@	1.25
Black Stockings	2.00	@	2.25
Roofing Rags—			
No. 1	.53	@	.58
No. 2	.48	@	.53
No. 3	.43	@	.48
No. 4	.38	@	.43
No. 5A	.33	@	.38

Foreign Rags

New Rags

New Dark Cuttings	1.40	@	1.50
New Mixed Cuttings	1.60	@	1.75
New Light Silesias	3.00	@	3.25
Light Flannelettes	2.50	@	2.75
Unbleached Cuttings	4.75	@	5.25
New White Cuttings	4.00	@	4.25
New Light Oxfords	3.00	@	3.25
New Light Prints	1.85	@	2.25

Old Rags

No. 1 White Linens	5.25	@	5.50
No. 2 White Linens	4.50	@	4.75
No. 3 White Linens	3.25	@	3.75
No. 4 White Linens	1.75	@	2.25
No. 1 White Cotton	3.50	@	3.75
No. 2 White Cotton	2.75	@	3.25
No. 3 White Cotton	2.25	@	2.50
No. 4 White Cotton	1.40	@	1.50
Extra Light Prints	1.80	@	2.00
Ord. Light Prints	1.60	@	1.75
Med. Light Prints	1.40	@	1.55
Dutch Blue Cottons	1.35	@	1.40
French Blue Linens	1.80	@	1.90
German Blue Linens	1.70	@	1.80
German Blue Cottons	1.20	@	1.25
Checks and Blues	1.25	@	1.30
Lindsay Garments	.75	@	.80
Dark Cottons	.70	@	.75
Old Shopperies	.55	@	.60
New Shopperies	.60	@	.65
French Blues	1.25	@	1.30

Old Rope and Bagging

(Prices to Mill f. o. b. N. Y.)

Gunny No. 1—			
Foreign	1.00	@	1.10
Domestic	1.15	@	1.25
Wool Tares, light	.80	@	.85
Wool Tares, heavy	.80	@	.85
Bright Bagging	.75	@	.80
Small Mixed Rope	.80	@	.90
Manila Rope—			
Foreign	1.45	@	1.50
Domestic	1.50	@	1.75
New Burlap Cut	1.65	@	1.75
Hessian Jute Threads—			
Foreign	2.60	@	2.75
Domestic	2.80	@	3.00

Old Waste Papers

(F. o. b. New York)

Shavings—			
White Envelope Cuttings	1.60	@	1.70
Ordinary Hard White No. 1	1.50	@	1.60
Hard White No. 2	1.30	@	1.40
Soft White No. 1	1.40	@	1.50
Flat Stock—			
Stitchless	.55	@	.65
Overissue Mag	.55	@	.65
Solid Flat Book	.50	@	.55
Crumpled No. 1	.40	@	.45
Solid Book Ledger	1.50	@	1.75
Ledger Stock	.45	@	.55
New B. B. Chips	.20	@	.25
Manilas—			
New Env. Cut	1.25	@	1.35
New Cuttings	1.00	@	1.05
Extra No. 1 old	.80	@	.90
Print	.35	@	.40
Bogus Wrapper	.30	@	.35
Container	.25	@	.30
Old Kraft Machine— Compressed bales	.75	@	.85
News—			
No. 1 White News	1.05	@	1.15
Strictly Overissue	.50	@	.55
Strictly Folded	.40	@	.45
No. 1 Mixed Paper	.15	@	.20

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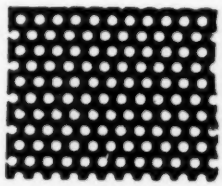

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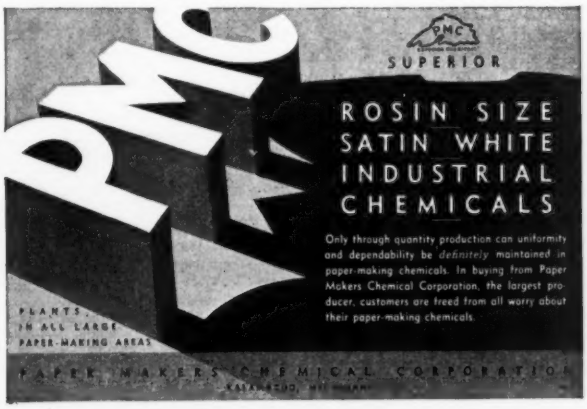
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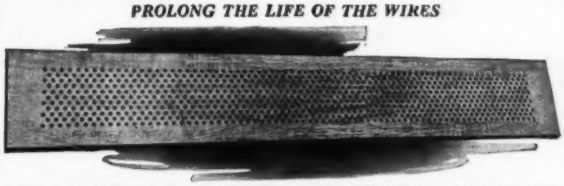

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(F. o. b. Mill)

Cotton—			
B. C., 18 basis	.30	@	.32
No. 1	.20	@	.22
No. 2	.19	@	.20
No. 3	.17	@	.18
A. Italian, 18 basis	.36	@	.37
Finisned Jute—			
Dark, 18 basis	.18	@	.20
Light, 18 basis	.20	@	.22
Jute Wrapping, 3-6 Ply—			
No. 1	.15½	@	.16½
No. 2	.11¾	@	.12¾
Tube Rope—			
4-ply and larger	.10¼	@	.10¾
Fine Tube Rope—			
4-ply	.12½	@	.12¾
3-ply	.13¼	@	.13¾
2-ply	.14¼	@	.14¾
Paper Makers Twine			
Balls	.09¼	@	.11¼
Box Twine, 2-3 ply	.11¼	@	.12¼
Jute Rope	.09	@	.10
White Hemp	.12¼	@	.12¾
Java Sisal—			
No. 1 Basis	.10	@	—
No. 2 Basis	.09	@	—
New Zealand Sisal	.10	@	—
Sisal Lath Yarn—			
No. 1	.12	@	.14
No. 2	.10	@	.12
Manila Twine	.23	@	.28

CHICAGO

Paper
(F. o. b. Mill)

Rag Bond	.30	@	.53¼
Water Marked Sulphite Bond	.09	@	.12
Sulphite Bond	.04	@	.11
Superfine Writing	.18	@	.24
No. 1 Fine Writing	.14	@	.18
No. 2 Fine Writing	.12	@	.14
No. 3 Fine Writing	.07	@	.18
No. 1 M. F. Book	.06½	@	.07¼
No. 2 M. F. Book	.05½	@	.06¼
No. 1 S.&S.C. Book	.06¾	@	.07¾
No. 2 S.&S.C. Book	.05¾	@	.06½
Coated Book	.07½	@	.12
Coated Label	.07½	@	.10
No. 1 Manila	.04¼	@	.05¾
No. 1 Fibre	.04¾	@	.05¼
No. 2 Manila	.04¼	@	.04¾
Butcher's Manila	.03¼	@	.03¾
No. 1 Kraft	3.50	@	4.50
Southern Kraft	2.62½	@	—
No. 2 Kraft	2.62½	@	—
Wood Tag Boards	.04¾	@	.06¼
Sulphite Screenings	.03	@	.03¾
Manila Tissue	.07	@	.07¼
White Tissue	.07¼	@	.07½
(Delivered Central Territory)			
News, per ton—			
Rolls, contract	45.00	@	—
Sheets	50.00	@	—
Boards, per ton—			
Plain Chip	27.50	@	—
Solid News	30.00	@	—
Manila Lined Chip	37.50	@	—
Patent coated	47.50	@	—
Container Lined—			
85 Test	50.00	@	55.00
100 Test	55.00	@	60.00

Old Papers
(F. o. b. Chicago)

Shavings—			
No. 1 White Envelope cuttings	1.50	@	1.55
No. 1 Hard White	1.40	@	1.45
No. 1 Soft White	1.00	@	1.10
Ledger & Writings	.45	@	.55
Solid Books	.25	@	.30
Blanks	1.00	@	1.05
Krafts	.70	@	.80
New Kraft Cuts	1.15	@	1.25
Manila Env. Cuts	1.25	@	1.30
Ex. No 1 Manila	.90	@	1.00
Print Manila	.30	@	.35
Overissue News	.30	@	.35
Old Newspapers—			
No. 1	.25	@	.30
Mixed Papers—			
No. 1	.15	@	.20
Roofing Stocks—			
No. 1	30.00	@	—
No. 2	28.00	@	—

PHILADELPHIA

Paper
(F. o. b. Mill)

Bonds	.04	@	.40
Ledgers	.06	@	.40
Writings—			
Superfine	.10	@	.18
Extra Fine	.15	@	.26
Fine	.15	@	.26
Fine, No. 2	.10	@	.25
Fine No. 3	.05½	@	.18
Book, M. F.	.04¾	@	.07
Book, S. S. & C.	.05	@	.07½
Book, Coated	.06	@	.16
Coated Lithograph	.06	@	.11
Label	.07	@	.11
No. 1 Jute Manila	.06	@	.09
Manila Sul., No. 1	.03	@	.05
Manila No. 2	.03	@	.04
No. 1 Kraft	.05¼	@	.06
No. 2 Kraft	.03¾	@	.04¼
Southern Kraft No. 1	—	@	.03¾
Southern Kraft No. 2	—	@	.02¾
Common Bogus	.03	@	.04
(Delivered Philadelphia)			
News Print Rolls	46.00	@	—
Straw Board	32.00	@	—
News Board	30.00	@	—
Chip Board	30.00	@	—
Wood Pulp Board	70.00	@	80.00
Binder Boards—			
No. 1, per ton	73.00	@	75.00
No. 2, per ton	62.00	@	65.00
Carload lots	60.00	@	65.00
Tarred Felts—			
Regular	52.25	@	54.25
Slaters (per roll)	.84	@	.94
Best Tarred, 1-ply (per roll)	1.95	@	2.10
Best Tarred, 2-ply (per roll)	1.50	@	1.60
Best Tarred, 3-ply	2.00	@	2.25

Domestic Rags (New)
(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1	.03½	@	.04
New White, No. 2	.02½	@	.04
Light Silesias	.02½	@	.03
Silesias, No. 1	.03	@	.03½
Black Silesias, soft	.02½	@	.03
New Unbleached	.05	@	.05½
Washable, No. 1	.01	@	.01½
Blue Overall	.03	@	.03½
Cottons—According to grades—			
Washable, No. 2	.01	@	.02
New Blue	.01	@	.02
Fancy	.01½	@	—
New Black Soft	.02	@	.03
New Light Seconds	.01	@	.02
New Dark Seconds	1.50	@	1.75
Khaki Cuttings—			
No. 1 O.D.	.03	@	.03½
No. 2 Mixed	.02½	@	.03
Corduroy	.02	@	.02½
New Canvas	.03½	@	.04
New Black Mixed	.02½	@	.03

Domestic Rags (Old)

White No. 1—			
Repacked	2.50	@	3.00
Miscellaneous	1.75	@	2.00
M. G.	3.00	@	3.50
Thirds and Blues—			
Miscellaneous	1.00	@	1.25
Repacked	1.50	@	1.75
Black Stockings (Export)	2.00	@	3.50
Roofing Stock—			
Foreign No. 1	.50	@	.75
Repacked	.70	@	.80

Bagging
(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	1.25	@	1.50
Domestic	1.50	@	—
Manila Rope	2.00	@	2.25
Sisal Rope	1.25	@	1.50
Mixed Rope	1.00	@	1.10
Scrap Burlaps—			
No. 1	1.25	@	1.50
No. 2	.80	@	1.00
Wool Tares, heavy	2.75	@	—
Mixed Strings	1.15	@	1.25
No. 1 New Light Burlap	2.25	@	2.50
New Burlap Cuttings	2.00	@	2.25

Old Papers
(F. o. b. Phila.)

Shavings—			
No. 1 Hard White	1.60	@	1.70
No. 2 Hard White	1.50	@	1.60
No. 1 Soft White	1.25	@	1.30
No. 2 Soft White	1.10	@	1.15
No. 1 Mixed	.50	@	.60
No. 2 Mixed	.40	@	.50
Solid Ledger Stock	1.00	@	1.10
Writing Paper	.75	@	.80
No. 1 Books, heavy	.55	@	—
No. 2 Books, light	.40	@	—
No. 1 New Manila	1.10	@	1.15
No. 1 Old Manila	.75	@	.80
Print Manila	.45	@	.50
Container Manila	.40	@	.45
Old Kraft	.85	@	.90
Common Paper	.20	@	.25
No. 1 Mixed Paper	.25	@	.30
Straw Board, Chip	.25	@	.30
Binders Board, Chip	.25	@	.30
Corrugated Board	.35	@	.45
Overissue News	.45	@	.55
Old Newspaper	.40	@	.50

BOSTON

Paper
(F. o. b. Mill)

Ledgers—			
Sulphite	.06	@	.12½
Rag Content	.12	@	.30
All Rag	.36	@	.52½
Bonds—			
Sulphite	.05½	@	.11½
Rag Content	.12	@	.30
All Rag	.36	@	.65
Writings	.06½	@	.20
Superfines	.11	@	.31
Book, Super	.06	@	.09
Book, M. F.	.05½	@	.08½
Book, Coated	.08½	@	.18
Coated Litho	.09	@	.12
Label	.09½	@	.15
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¾	@	.06½
Manila, Sul. No. 2	.03¾	@	.04½
No. 1 Kraft	—	@	.04¾
No. 2 Kraft	—	@	.02¾
(F. o. b. Boston)			
Southern Kraft	—	@	.02½
(F. o. b. destination in carload lots, f. o. b. mill in less than carload lots.)			
Common Bogus	.02	@	.02¾
(Delivered New England points)			
News Print, rolls	44.50	@	—
Straw Board, rolls	.009	—	@35.00
Straw Board in Sheets, basis 35s to 70s	—	@40.00	
Filled News Board	—	@30.00	
Chip Board	27.50	@	—
Chip Board (Creasing)	27.50	@30.00	
Single Manila Lined Chip	—	@37.50	
Single White, Patent Coated News Board—			
Bender	45.00	@55.00	
Wood Pulp Board	70.00	@75.00	
Binder Boards	62.00	@75.00	

Old Papers
(F. o. b. Boston)

Shavings—			
No. 1 Soft White	1.50	@	1.60
No. 1 Old Manila	.50	@	.60
No. 2 Mixed	.50	@	.55
No. 1 Mixed	.75	@	.85
Solid Ledger Books	1.20	@	1.40
Overissue Ledger Stock	1.15	@	1.30
Mixed Ledgers	.60	@	.70
No. 1 Books, heavy	.55	@	.65
No. 1 Books, light	—	@	.30
Crumpled Stitchless Book Stock	.50	@	.60
Manila Env. Cuttings	1.25	@	1.30
No. 1 Old Manila	.55	@	.65
White Blank News	.95	@	1.00
Kraft No. 1	.90	@	1.00
Manila	.80	@	.90
No. 1 Mixed Papers	.15	@	.20
Print Manila	.30	@	.40
Overissue News	.35	@	.45
Old Newspapers	.35	@	.37½
Box Board, Chip	.17½	@	.20
Corrugated Boxes	.20	@	.25
Screening Wrappers	.25	@	.32½

Bagging
(F. o. b. Boston)

Gunny No. 1—			
Foreign	—	@	1.00
Domestic	.80	@	.85
Manila Rope—			
Foreign	1.40	@	1.50
Domestic	—	@	1.60
Transmission Rope	1.00	@	—
Mixing String	—	@	.30
Jute Rope	—	@	.75
Jute Carpet Threads	.25	@	.30
Bleachery Burlap	1.75	@	2.00
Scrap Burlap	.60	@	1.00
No. 1 Scrap Burlap	.80	@	.90
Scrap Sisal	.75	@	.85
Scrap Sisal for shredding	.90	@	1.00
Wool Tares, heavy	.65	@	.75
New Burlap Cutting	.75	@	.90
Australian Wool Pouches	—	@	1.50
Heavy Baling Bagging	.90	@	1.10
Paper Mill Bagging	.50	@	.60
Bagging No. 2	.20	@	.25
No. 1 Burlap	1.80	@	2.00

Domestic Rags (New)
(F. o. b. Boston)

Shirt Cuttings—			
New Light Prints	—	@	.01½
New White No. 1	.03¾	@	.04
New White No. 2	.02¾	@	.03¼
Silesias No. 1	—	@	.02
New Black Silesias	.02½	@	.02¾
New Unbleached	.05	@	.05¼
Fancy	—	@	.02½
Washable	—	@	.01¾
Cottons—According to grades—			
Blue Overalls	—	@	.03¾
New Black, soft	.04	@	.04¼
Khaki Cuttings	.03	@	.03½
O. D. Khaki	.03½	@	.03¾
Corduroy	.02¾	@	.03
New Canvas	—	@	.05
B.V.D. Cuttings	.04	@	.04¼

Domestic Rags (Old)
(F. o. b. Boston)

Canvas	.04½	@	—
White No. 1—			
Repacked	3.00	@	3.50
Miscellaneous	2.00	@	2.25
White No. 2—			
Repacked	.02¼	@	.02½
Miscellaneous	.02	@	.02¼
Twos and Blues	.90	@	1.00
Thirds and Blues—			
Repacked	.75	@	.85
Miscellaneous	.70	@	.75
Black Stockings	2.00	@	2.25
Roofing Stock—			
No. 1	.35	@	.40
No. 2	.30	@	.35
No. 3	.25	@	.30

Foreign Rags
(F. o. b. Boston)

Dark Cottons	.50	@	.60
New No. 1 White Shirt Cuttings	3.75	@	4.00
Dutch Blues	1.25	@	1.50
New Checks & Blues	2.25	@	2.50
Old Fustians	—	@	.75
Old Linsey Garments	.55	@	.65

TORONTO

Paper
(F. o. b. Mill)

Bond—			
No. 1 Sulphite	.10¼	@	—
No. 2 Sulphite	.08½	@	—
No. 1 Colored	.10¾	@	
No. 2 Colored	.09	@	.10½
Ledgers (sulphite)	—	@	—
Ledgers, No. 1	.36	@	—
Ledgers, No. 2	.27	@	—
Writing	.09	@	.09½
Book—			
No. 1 M. F. (Carloads)	6.65	@	—
No. 3 M. F. (Carloads)	6.20	@	—
No. 4 M. F. (carloads)	5.25	@	—
No. 1 S. C. (carloads)	7.15	@	—
No. 3 S. C. (carloads)	6.65	@	—
No. 4 S. C. (carloads)	5.70	@	—
No. 1 Coated and Litho	12.50	@	—
No. 2 Coated and Litho	11.50	@	—
No. 3 Coated and Litho	10.00	@	11.50
Coated tinted	14.00	@	—
Wrapping—			
Rag Brown	4.40	@	—
White Wrap	2.00	@	—
"B" Manila	4.90	@	—
No. 1 Manila	5.40	@	—
Fiber	5.40	@	—
Kraft, M. F.	5.75	@	—
Kraft No. 2	5.40	@	—
News, per ton—			
Rolls (contract)	45.50	@	—
Sheets	50.50	@	—

Pulp
(F. o. b. Mill)

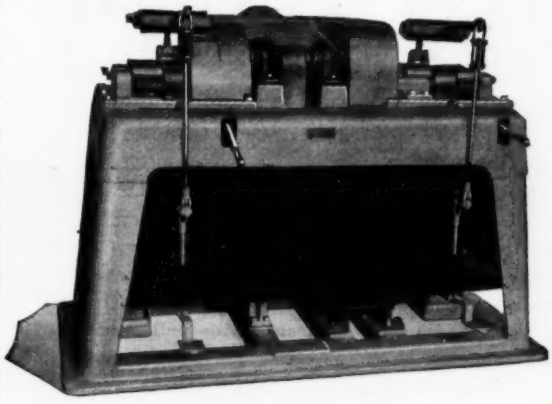
Ground Wood	18.00	@	20.00
Sulphite easy bleaching	40.00	@	—
Sulphite, news grade	38.00	@	—
Sulphite, bleached	48.00	@	58.00
Sulphate	50.00	@	—

Old Waste Paper
(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	1.80	@	—
Soft White	1.40	@	—
White Blk. News	1.25	@	—
Book and Ledger—			
Flat Magazine and Book Stock (old)	.90	@	—
Light and Crumpled Book Stock	.80	@	—
Ledgers and Writings	1.00	@	—
Manilas—			
New Manila Cut	1.25	@	—
Printed Manilas	.55	@	—
Kraft	1.75	@	—
News and Scrap—			
Strictly Overissue	.50	@	—
Strictly Folded	.50	@	—
No. 1 Mixed Paper	.40	@	—

Domestic Rags
(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	.09½	@	.10
Fancy Shirt Cuttings	.06	@	.06½



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